

The logo features a stylized green and blue graphic on the left, followed by the word "DAREKON" in a large, bold, blue serif font, and ".net" in a smaller, blue sans-serif font to the right.

DAREKON .net

A large, white, industrial radiotherapy machine is shown in a clinical setting. It has a large circular gantry and a patient table. A green laser line is visible, indicating the treatment area. The machine is mounted on a complex base with various components and cables.

SCANDIDOS

Solutions for more effective and safer radiotherapy

ARCTEQ RELAYS

Electric arc protectors and protection relays for industry

HAAPAVESI

Facility expansion underway again

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CUSTOMER MAGAZINE OF DAREKON LTD



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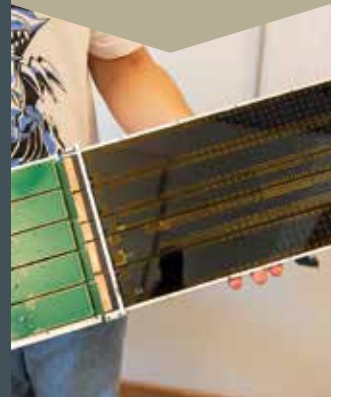
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Darekon has worked as a partner of SkandiDos right from its early years.

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We are approaching the 100 million euro mark

Last year our turnover rose to more than 80 million euros, and this year we are aiming for sales of more than 90 million euros. Profitability is returning to a normal level after last year's challenges. The number of staff has increased to almost 500. The growth is mainly coming from the cleantech and medtech industries.

Responsibility is at the heart of all our activities. We have started sustainability reporting and are developing it further. It will become mandatory in 2025. Darekon also joined Elinkeinoelämä's Energy Efficiency Agreement this year. We have agreed on goals for improving energy efficiency for the next few years.

Darekon Group's structure has been modified during the last two years and the current structure; three electronics manufacturing plants (in Finland, Poland and Sweden) and two mechanical plants in Finland support our goals. These are cooperating well together as we continually develop each one.

The availability challenges of electronic components that have plagued us in recent years are decreasing and delivery times have shortened. Due to this our goal is to reduce working capital tied up in inventories.

An expansion project started at the Haapavesi electronics facility in the summer. We will get 1,200 m² more production space and a 120 kWp solar power plant on the roof of the site. We are also increasing the use of geothermal energy at the property. The new premises are supposed to be put into use early next year.

The Gdansk facility has invested in a new SMT line this year. It is now similar to Haapavesi. Premec Oy in Ylivieska has continued its profitable operations, as has Darekon AB in Stockholm. The integration of the operations of both companies into Darekon Group has progressed well.

This magazine has many good stories about the past year and our customers. I especially like the stories about people, people from Darekon. This time it's about Łukasz. It is worth reading. What matters are the mountains! Thanks to Łukasz for sharing and thanks to all the other Darekonians, our customers and suppliers for the past year.

Kai Orpo



I especially like the stories about people, the Darekonians.”

Premec in Ylivieska invests in production efficiency

Premec Oy, part of the Darekon Group, regularly invests in new equipment required for growing production. New production facilities have also been commissioned.

Just a few weeks ago the brand new Amada HFE3i 1003 press brake was installed alongside several existing presses, which seems to be the 14th Premec press brake. At the beginning of the year, a Coastone MultiTapper MT1212 tapping and counter sink machine was also installed in the same hall.

Amada brings more convenience and speed

The new Amada would look almost identical to many previous models of press brakes in a layman's eyes but according to its users, it is a 'sweet gadget'. It has a more advanced control system, faster operation and good accessories.

The machine now put into use represents the middle class of its product family. The jaw width of the 8-axis machine is 3.1 metres and the maximum pressing force is one hundred tons. The machine's versatile standard equipment includes C-frame, maintenance-free automatic bombardment, hand wheel, AMNC 3i multimedia control, inverter, S-Grip upper blade holders, Digipro angle measuring device, automatic Akas laser safety device, LED light and tool navigator.

Four-axis TapOne CNC machine for threading

The TapOne MultiTapper MT1212, made in Finland by the Coastone company, is a portal frame tapping and countersinking machine with two tapping and one countersinking spindles as standard. The machine makes threads in material up to 12mm thick in size classes M3–M10. Embedding tapping and sinking in the same machine makes work easier, improves accuracy and speeds up the processing of pieces.

The one and a half ton machine is fully electric and also uses an external compressed air supply. It has a maximum working area of 1,250 x 1,250mm and an alignment accuracy of $\pm 0.07\text{mm}$.



The new Amada HFE3i press brake completes the row of older press brakes and brings more speed and comfort to the work.



The handy touch screen of the TapOne Multitapper machine enables easy programming of threading and sinking. Alternatively, it is possible to import a finished CAM file to the machine.

An efficient solar power plant for the Haapavesi facility



A solar power plant with a peak power of 120 kilowatts (kWp) is being installed at the Darekon facility in Haapavesi. The power plant comprises 240 panels, some of which will be placed on the roof of the new plant under construction and some on the roof of the existing warehouse wing.

The power plant produces around one hundred thousand kilowatt hours of electrical energy per year,

which corresponds to the annual electricity consumption of about ten private houses.

The installation for the existing facility started in September, and the section that will be on the roof of the new building will be installed once building work is completed in the spring of next year. The system is supplied by Rytlyn kone ja sähkö Oy operating in Haapavesi.

Tosibox and Darekon enter in-depth cooperation



Tosibox's products are tested, programmed and packed at the Darekon plant ready to be sent to customers.



Ready packaged products awaiting orders and delivery.

Tosibox is a company specialising in patented, secure communication solutions, for which Darekon has manufactured circuit boards for several years.

In accordance with its strategy, Tosibox is now focused on being a software house and acquiring the physical platforms for its devices from the options available on the market. Tosibox and Darekon have entered into a strategic cooperation agreement for the assembly and logistics of the devices.

“Now we procure most of the necessary components for Tosibox, the Klaukkala factory assembles and tests the devices, installs the software, packs the devices and manages the logistics to the end customer,” says Darekon’s Klaukkala plant director **Pekka Antikainen**. “What makes our agreement exclusive is that Tosibox gives us access to information from its own systems about what to produce and how much.”

According to Antikainen, Tosibox is an excellent example of an operating model that Darekon wants to continue to develop and offer to its customers. “This has gotten off to a great start, several deliveries are sent every day and often within the same day of the order - just like in online stores,” says Antikainen with satisfaction. ■

(Read more on p. 17.)

Insert press and arm robot for Klaukkala

A new Finnish Coastone Pressone P1s-10 insert press has been ordered for Darekon’s Klaukkala manufacturing facility at the same time as other investments and changes. The press also has the Yaskawa Motoman arm robot as its partner to process parts.

“The threads made directly on the plate have largely been replaced by inserts,” says Klaukkala’s plant director **Pekka Antikainen**. “With the same equipment – in addition to nuts – different pins, guides and so on can be attached to the plate parts. Now we run three such machines in three shifts. It is a key part of our sheet metal production.”

All Coastone machines are built entirely in Finland at Seinäjoki. They are electric and use servo technology. The ball screw achieves very good repetition accuracy while the servo technology is energy efficient and works quietly. The machines are also clean and ecological because they do not use hydraulics. ■





ARCTEQ RELAYS MANUFACTURES ELECTRIC ARC PROTECTORS AND PROTECTION RELAYS FOR INDUSTRIAL USE

Arcteq's electric arc protection systems and protection relays are important safety devices for power plants and large industries that protect against serious electrical accidents. The protection relays also produce versatile data, which can be used to optimise the plant's operation and prevent problems in advance.

The ignition of an electric arc in electrical equipment is a relatively rare, but extremely dangerous problem that can potentially cause great damage to people and equipment. An electric arc can be ignited by various external factors, such as an insulation fault for example. Then the entire energy between the phases or between the phase and the ground is released in an arc, the current of which can be tens of kiloamperes (kA) and the temperature several thousand degrees. The tremendous energy vaporises any metal present, causing a hot explosion and fire, resulting in serious damage.

It is possible to extinguish an arc at the very beginning

All power plants have protection for overload and short circuits. However, the response time of conventional protection devices is relatively long, hundreds of milliseconds (ms). Although the time seems short, it is actually helplessly long in this situation. The damage to the equipment can be so great that repairing it is very costly and can take many days or even weeks to fix. The risk of personal injury is high.

Arcteq Relays, as its name suggests (the word ARC here means electric arc), started developing electric arc protection systems from the very beginning of its inception. The Vaasa-based company's first arc protection systems were delivered in 2012 to a customer base that included power plants, large-scale industry (which has its own power grid) and various infrastructure facilities, such as railways.

Arcteq's protection system literally reacts lightning-fast to the rapid rise of the current and the light generated by the

electric arc. The system activates the circuit breaker in about 6ms. Depending on the operating speed of the circuit breaker, the duration of the arc is thus limited to around 60-80 milliseconds. The damage will be significantly smaller than without protection, in which case the arc could last around 300ms.

Large damages can occur in industry

In electrical plants, the arc current usually stays in the order of 10kA, so that damage during 60-80ms is limited. In industrial systems, the current can be much higher, in the order of 50kA, in which case the damage caused during 60-80ms can be significant. Then Arcteq's unique arc quenching devices can be used.

Arcteq's active arc quenching device is suitable for all low-voltage systems with a maximum voltage of 690 volts (V) and a current of 100kA. When an arc is ignited, the device causes a controlled short circuit between all phases of the three-phase system and thus absorbs the energy of the arc.

The extinguisher reacts to the arc in 2ms and extinguishes it in less than 5ms. The device can absorb a 100kA current for 200ms, allowing the circuit breaker to react well to a short circuit. Arcteq's quenching devices are unique in the market in that they can be reset to their original state, tested and used again.

A second generation spin-off and subsidiary of Ensto

"Arcteq Relays Ltd was founded in 2010, but most of the company's staff has experience in the field for up to 25 years," says the company's sales and marketing director **Robert Olander**.

“Almost everyone has worked in the field in other companies even before the company was founded. Long experience is considered a strong advantage in the field, because our devices and the parameters they handle are quite complex.”

According to Olander, the ‘first generation spin-off’ was born when a group of employees in the field left a large electrical engineering company operating in Vaasa in the mid-1990s and founded a company to manufacture arc protection systems.

In 2010, another large international electrical engineering company bought the spin-off, which had already risen to a significant position in the industry. Following that, five of the company’s employees who believed there was still room for a new player in the industry, left the company and founded Arcteq. This was the second generation spin-off.

Arcteq became a subsidiary of Ensto Oy in 2022, when Ensto bought a 70 per cent stake in the company’s stock. The arrangement is part of Ensto’s growth and internationalisation strategy.

Strong growth in all market areas

“Electric arc protection systems are our first product group that we started to develop,” says Arcteq operations director **Antti Koksalo**. “Their most important feature is extremely reliable operation and they are relatively simple devices. When an arc occurs in the electrical system, it must be extinguished immediately.

“Our second product group is protective relays, which, despite their simple name, are very complex devices. You could say about the protection relay that it is a fuse, but that does not give a completely correct picture of the system’s characteristics. Of course, it cuts off overcurrent, but it also does a lot of other things.”

According to Koksalo, more than 30,000 arc protection systems have been delivered since 2012. The first protective relays were introduced to the market in 2013 and more than 20,000 systems have been delivered to date. Devices are sold in more than 50 countries and the market can be divided into five roughly equal parts: the Nordic countries, the rest of Europe, Americas, Asia and Africa & the Middle East.



Robert Olander (right) and Antti Koksalo with a shelf in the background where every manufactured device is tested for two days.



The final assembly of Arcteq products takes place at the company’s own factory. Here, Marjo Verkkomäki attaches the circuit board to the device’s case.

As one example, Koksalo mentions CERN, the European Organisation for Nuclear Research, where only Arcteq devices are used for protection. The five-year supply contract has recently been renewed.

The operation has been export-oriented from the beginning. The company's market share in its field in Finland is about 40 per cent, but Finland's share of all sales is only about 6 per cent. Last year, Arcteq's growth was around 30 per cent, and this year's growth seems to be almost the same. Growth is strong in all market areas.

Protective relays for protection, analysis and control

"When designing the protective relays, we set out from the beginning with the highest possible measurement accuracy," says Olander. "We knew exactly what the competitors had and in this competition against the giants we had to make a better product.

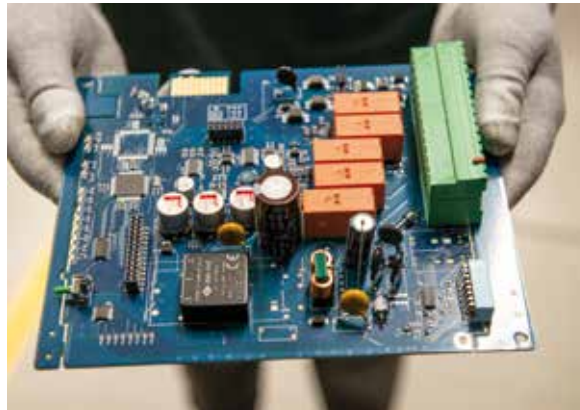
"Protective relays get their information from the grid through current and voltage transformers, and based on the conversion ratio, we can calculate power, energy, phase angles and many other parameters. The protective relay is also suitable for energy measurement of power plants. The measurement data can be compared with the sum data obtained from the customers' meters and possible leaks or loss of energy due to some other reason can be identified. The measurement accuracy of the protective relay is better than 0.2 per cent, so a separate energy measurement is not needed."

As one example, Olander describes the analysis of a transient fault. Arcteq's protective relay takes 64 samples from the 20ms period of a phase and can store 100 five-second measurement periods in its memory. If the transient lasts one millisecond, three samples are typically obtained. With competing devices, the typical speed is 20 samples per cycle, and only a few of the measurement results can be stored.

Along with the product features, Olander emphasises the importance of service: "For example, we offer customer support both through our service portal and by phone. We respond to 85 per cent of support requests within two hours. That's a tough statistic."

“

In a contract manufacturer, quality, reliability and definite delivery are the most important characteristics.”



Arcteq's electric arc protector is a microprocessor-based device that contains both surface-mounted and manually placed components.



Darekon maintains a forecast-based buffer warehouse for Arcteq, from which the products are delivered based on the customer's direction.

Finnish product and circuit boards from Darekon

"Our product is completely manufactured in Finland," continues Koksalo. "Darekon was selected as our circuit board supplier through a normal bidding. We sent requests for tenders to all major EMS's (contract electronics manufacturers) and Darekon won this tender.

"Assembly and final testing of the devices takes place at our factory in Vaasa. Darekon maintains for us a forecast-based buffer, from which we call the boards into our production with a delivery time of one week. Our normal delivery time for customers is 3-6 weeks from the order, which is quite fast in the industry. If necessary, we deliver for an additional fee even in one week, and of course spare parts on the same or the next day."

In a contract manufacturer, Koksalo considers quality, reliability and definite delivery to be the most important characteristics. In addition to these, he praises Darekon for its good customer service and the quality of PLM operations (Product Lifecycle Management). He is also thankful for Darekon's flexibility, since in fast-paced operations you sometimes have to deviate from anticipated routines.

Active electric arc protection in strong growth

"The culture of electric arc protection in the world varies a lot from country to country, but active protection has not been very widely used," says Olander. "Instead, the equipment has been built very strong, so it protects users from personal injury. However, an accident may cause huge equipment damage, resulting in downtime for days or even weeks.

"But now it seems that active protection is being increasingly adapted in all our market areas."

Increasing active protection is an essential part of Arcteq's strategy, and they are working towards it in the international market. Arcteq has a strong network of partners around the world, and with Ensto's resources, it is in an even stronger position to grow the market. ■



The equipment for the new SMT placement line is in place and the electrical installations are underway.

SPEED, POWER AND NEW FEATURES

DAREKON POLAND RENEWED ITS SMT MACHINES

The quieter moments of summer are the best time to renovate SMT placement systems. The manufacturing facility now runs with state-of-the-art machines that are the latest generation of SMT placement technology.

When our editor visited Darekon's factory in Gdansk, Poland, in mid-June, the equipment had arrived at the facility the week before and put in place and levelled. Cabling was underway, to be followed by calibration and thorough testing of the equipment.

Top-tier machines for even the most demanding jobs

ASM Siplace X4 is the most advanced device in its category and, according to the manufacturer, one

of the fastest SMT machines on the market. Two of its four revolver heads are so-called 'chip-shooters', the other two intended for slightly larger components.

The placement line can handle components with a size starting from 01005, which means outer dimensions of 0.4x0.2mm. The placement accuracy is at best ± 22 micrometres. The placement speed is several tens of thousands of components per hour.

Another placement machine operating in the same line is the Siplace SX2 model. It has two

revolver heads. One as in X4 and the other is a so-called 'twin head' placing mechanism that picks up larger components from the feed tray. With this line, it is possible to place all possible SMT components.

An in-line AOI (Automatic Optical Inspection) station has also been placed in the line, which in the previous configuration was separate from the SMT line. The equipment is basically very similar to the equipment operating at Darekon's Haapavesi facility, which was put into use there in 2020.

New devices, new services

"We still have the fresh memory of a situation where the availability of components was a big problem," says Polish plant director **Sławomir Wawryk**. "Fortunately, it's mostly over now and we see signals in the market that customers' product stocks are growing."

According to Wawryk, the summer was the best time to renew the assembly lines, when the holiday season partly slowed down production and the lines could be run down one at a time. It is best to make changes when production is a little calmer.

"The new equipment gives our operations even more reliability and precision – a real guarantee of quality," continues Wawryk. "The new devices consume even less energy and contain many new features. Advanced digital features give us, for example, the full opportunity to track components. This feature can be offered as an additional service to customers if they need it."

Darekon Poland seeks organic growth

Until now Darekon's facility in Poland has focused on cards made in larger series and on tasks that require a lot of manual work, such as the production of cable harnesses. Most of the work has come through the Finnish part of Darekon.

The updated equipment provides even better opportunities for the production of very demanding cards, which the site and its staff are already experienced at. One example is machine vision system cards that may have multiple high-resolution camera circuits. A few of these cards are very

complex and full, and some individual components can cost tens of, or even a hundred euros.

"Through our current larger customers, we have gained new good contacts with their partners, and direct inquiries and requests for offers from potential new Central European customers have also increased," says Wawryk. "We have advanced and we want to show both our current and future customers that we can produce the most challenging and complex cards with high quality.

"At the same time, it is important that we have good communication with all our customers and regular meetings with the largest ones, where all current issues and future needs are discussed. In these meetings, everyone who participates locally in the know-how is involved: production planners, technology people, material procurement and the facility manager."

Committed staff are ready for challenges

Darekon has been operating in Gdansk at its current location for ten years and the labour force of the unit has reached more than 100 people. Wawryk is particularly proud of the staff – their commitment and long working relationships, which are a great strength for the company.

The plant is constantly developing step by step, and the natural cornerstones of the operation are the ISO 9001 quality system, the ISO 14001 environmental system, and the ISO 13485 certification for the manufacture of medical devices.

The Monitor ERP system used in all units of Darekon has established itself as a self-evident tool in Poland as well. Internally, the company is developing some new tools on top of it, which will increase the possibility of using existing data and making operations more efficient.

"In recent years, we have developed strongly in Poland. We are capable of working directly with even the largest customers. We are looking for new projects and want to develop further. We have knowledge, skills, good people and good machines – we are ready for new challenges," concludes Wawryk. ■



The reception unit is being placed after the AOI device.



The placement line looks almost ready and testing is about to start.



In addition to the new SMT placement line, the factory needs plenty of handy pairs of hands for manual work steps.



Sławomir Wawryk says his production facility is ready to accept new challenges and new customers.



In Haapavesi, the rock is such that it cracks a little irregularly. With the last blast work, however, a good trench for the new building's underground drainage was completed.

STRONG GROWTH AND EXPANSION IN PROGRESS AT HAAPAVESI PLANT

The current year has kept Darekon's Haapavesi production facility busy. Staff numbers have been greatly increased, new customer relationships have been launched and production moved from Savonlinna has been integrated.

In the spring of last year, about 110 people worked at the Haapavesi plant. This fall there are 180 employees. In the summer, the construction of yet another expansion to the factory was also started.

New customers and more space

Darekon has succeeded in increasing its customer base with significant new customers, which have brought much more work to all its factories. Most of the electronics manufacturing has been directed to the

Haapavesi manufacturing facility, where the number of personnel has also increased by more than one and a half times from the year before.

Part of the increase in the plant's population is due to the relocation of the production work of the Savonlinna facility, which was closed a year ago. Little more than 30 people worked in Savonlinna in the final phase. Part of Savonlinna's production effort was moved to Haapavesi and part to Darekon's manufacturing facility in Poland.

Most significantly a good part of the growth experienced at the Haapavesi site is due to new customers and an increase in the workload of existing customers.

To match this growth, more space is also needed and expansion work started in the summer will add 1,200 square metres (m²). The new area will be located on the south side of the current property and will include nearly 1,000m² of production space. In addition to that, it will have a canteen, offices and meeting rooms. The current warehouse



Vesa Laine is satisfied with how well everything has been managed at the production facility amid the changes and strong increase in demand.



The renewed varnishing line can now use several different varnish finishes, such as UV or acrylic varnish.



The new Vertical Lift Module, which works on the elevator principle, is four metres wide and seven metres high.



The protective safety cover just jumped when a last 10kg blast finished the excavation for the foundation of Darekon's new building.

will be mainly moved to the new area and expanded production will take over the vacated space.

The new facility will stand separately from the existing site and there will be an eight-metre-long corridor between the parts. Six new energy wells will be placed in the space between the buildings. This will aid the property's energy economy, mainly in terms of cooling. The expansion part will be completed by the end of March 2024.

A multinational and efficient organisation

"We have been in a hurry, but we have managed surprisingly well," says production planner **Vesa Laine**, who is also responsible for the internal matters related to the expansion. "Today, we have people of nine different nationalities at work. They all get along well with each other, English is spoken a lot and there are many employees from Asia."

With the introduction of the Monitor ERP system a couple of years ago, the factory's organisation has also been sharpened. Area teams are responsible for different production phases, such as surface mounting, storage, manual component placement, inspection and so on. Customer teams, on the other hand, focus on production for specific customers and carry out tasks such as assembly and testing.

Some of the staff always work at the same task and some move from one team to another depending on the situation. Four full-time people work in production planning and a few others contribute part-time.

"New staff are mainly trained for their tasks in-house by our own advisers, because it is not very easy to find ready-made professionals," continues Laine. "In addition, JEDU, the local vocational education centre, is organising 'tailored training' for our needs."

More warehouse automation and other equipment

Alongside the two vertical carousel modules that have been in use for more than a year, another two similar machines have been purchased for the warehouse. They further improve the use of space and significantly speed up the collection of components for production.

In another part of the premises a Kardex Shuttle 500 Vertical Lift Module, which works on the elevator principle, has also been installed for the storage of slightly larger components. The internal lift of the system locates the selected four-metre-wide shelf in front of the user, on which up to 500kg of goods can be placed. The device is seven metres high, contains 47 shelves and saves about one hundred square metres of warehouse space.

A renewed varnish line provides the option to use different varnishes. Acrylic varnish is most commonly used and thanks to a UV dryer connected to the line, UV varnish can also be used. Varnishing takes place selectively on targeted areas of the circuit boards. Varnishing is completed in a darkroom, where the quality of the varnish is checked under UV light.

A last blast at the end of August

Our magazine's editor visited the Haapavesi facility at the end of August and on the same day the final excavation blast work for the expansion section was fired. **Markku Kääntä** of Louhinta Kääntä Oy – responsible for the excavation – said that the charge was 10kg of dynamite, which was timed to explode in ten blasts 25 milliseconds apart. The protective cover over the blast area merely jumped when the charge exploded.

In total, nearly 1,000 cubic metres of rock was excavated for the foundations of the building, according to Kääntä. After excavating and removing the rubble, the builders were able to make forms and start casting concrete for the base of the building. ■



ScandiDos's Delta4 Phantom+ verifies the settings of the linear accelerator before starting the patient's treatment and ensures that the correct radiation dose is given.

SCANDIDOS DEVELOPS SOLUTIONS FOR MORE EFFECTIVE AND SAFER RADIOTHERAPY

ScandiDos AB is one of the longest-standing and most important customers of Sweden-based Darekon AB (formerly SMD Production AB). For 20 years, ScandiDos has been developing hardware and software solutions for planning and measuring cancer radiotherapy. Darekon has acted as ScandiDos' versatile partner since its early years.

Cancer is the most common cause of death in the world, one in six deaths in fact and an even higher rate in Western countries. Radiotherapy is one of the most widely used forms of cancer treatment. It uses ionising radiation to harm and destroy the tumour, either alone or in combination with surgery or pharmaceuticals.

It's about efficiency and accuracy

Radiotherapy devices (linear accelerator, shortened to linac) are expensive systems. All hospitals do not have them. The price of one linac is in the order of two million euros, and the construction of the necessary radiation-safe bunker around the device costs another fortune. Therefore, the aim is to use the devices efficiently and treat as many patients as possible.

Radiotherapy is always planned individually according to the needs of each patient. Because of this, the linac settings have to be adjusted for every new patient. ScandiDos set out to develop a means of verifying that the vital linac settings are correct, offering quality assurance (QA).

Görgen Nilsson, CTO of ScandiDos, once worked as a hospital engineer and saw a problem when trying to measure pre-treatment verification (PT) of radiation therapy using a measuring plate placed on the treatment table. He went on to found ScandiDos with **Ingemar Wiberg**.

Since the patient is always three-dimensional (3D), he set out to develop a 3D measuring device that can accurately measure the dose received by the isocentric target point. Isocentric means the point through which the central axis of the radiation beam

passes, regardless of the beam's incoming direction. With the help of the firm's 3D system, the linac can be adjusted quickly and precisely to the needs of each new patient.

Partnership during development

Today, Darekon manufactures electronics for ScandiDos's measuring devices, which are the Delta4 Phantom+ with its various versions and the Delta4 Discover, which measures the radiation dose during treatment. Both systems have thousands of precisely positioned special diodes that create an overall picture of radiation dosage.

"Darekon is not just a manufacturer, but a real partner of ours from the beginning of the development work," says **Henriette Münch**, CFO and head of operations of ScandiDos. "Communication has always been the key to good cooperation. Darekon's people under-

stand when we talk to them and tell them our needs. We cannot make five-year plans because development work, seasonal changes and many other factors affect our operations. A flexible partner is vital and in this regard, Darekon is an excellent partner for us.”

“The needs of the coming week can change quickly if an improvement has been made to the product in the previous week,” continues purchasing manager **Daniel Pettersson**. “Considering the size of our company, we have very complex products and most of our people are engineers - we are not a logistics company. We want to look forward and I believe that we can continue to develop our good partnership even further. The next step will be to use Darekon’s support in making our supply chain processes more efficient by outsourcing certain steps to Darekon.”

Producing high quality flexibly

“During the product development phase, a lot of changes happen really quickly and it can sometimes be quite challenging to work with a partner. On the other hand, a flexible manufacturing partner also brings its own skills and resources to development projects,” says **Sven Blomberg**, CEO of Darekon AB. “We want to be the partner that evolves with the needs of our customers and adds even more value in the future.”

Pettersson describes a logistics paradox that comes up from time to time: “We order a batch of circuit boards from you for our devices. Next, you send an order for the special components we have in stock for the boards. Then we deliver the components to you and production can begin. We have to move on from this. In principle, we need a certain number of boards every week, but now there are still a lot of individual moments to schedule.”

Blomberg says that Darekon AB will start using the Monitor ERP system at the turn of the year, one of the factors that will improve future cooperation. It is already in use in other Darekon companies and is also used by ScandiDos. A common system will bring many advantages to managing administrative routines.



Henriette Münch, Daniel Pettersson and Sven Blomberg examine the device components supplied by Darekon to ScandiDos.



Darekon is not just a manufacturer, but a real partner of ours.”



Ingemar Solander tests and assembles an average of one Delta4 Phantom+ device per day. The work is manual work that requires precision.



Delta4 Phantom+ is here equipped with the HexaMotion platform that simulates the patient’s breathing and movement and helps ensure the correct radiation dose to the target.

On another matter, Blomberg mentions Darekon AB’s plans to move premises. New premises are available very close to the current ones. The premises are larger and the layout is much better than currently. Larger, uniform spaces help the handling of material flows and the entire operation.

The possibilities of a world-class operator

“The quality requirements in the field are extremely high,” says Münch. “Darekon supplies us with ready-made circuit boards that they have tested. The final assembly takes place at our site, and before that the plates are checked and measured to ensure that each diode produces exactly the right measurement result. The finished device is finally tested and calibrated under the real conditions in a linac.

“We have an agreement with Uppsala University Hospital (Akademiska sjukhuset) and we go there a couple of times a week in the evenings, when the cancer treatments have ended, to test our equipment. The hospital views this cooperation very positively. The hospital’s doctors are also happy to give feedback, because they want to be at the forefront of development. A better product allows them to treat their patients even better.”

Delta4 Phantom+ is ScandiDos’s main product. The company has delivered its devices to more than 50 countries on all continents, a total of more than 1,000 devices to around 800 hospitals. The firm’s market position is strong, but in a worldwide market there are linacs in more than 150 countries, in 8,000 hospitals, a total of approximately 15,000 radiation therapy devices. There is room for growth.

Cancer is an ever-increasing plague because people are living longer. The forms of treatment are becoming more and more developed, and this requires even more precise QA. ScandiDos is at the forefront of that technology, and after the pandemic, growth has picked up again. The first Delta4 Phantom was on sale for nine years. Delta4 Phantom+ has been on the market for eight years now. Medical technology develops relatively slowly, but we await the next announcement with interest. ■



The Amada turret punch press, which was commissioned a year ago, has established itself as a continuation of the Finn Power turret punch presses operating in the adjacent hall. The machine is servo operated, saves 70 per cent energy compared to hydraulic operation and can process 3m x 1.5m sheets without realignment.

PREMEC IS MAKING STEADY PROGRESS AS PART OF THE DAREKON GROUP

Premec has been a part of the Darekon Group for over a year and a half now. The atmosphere is good, the group supports development and the cooperation between the facilities is progressing smoothly. The confused world situation makes one cautious, but a good variability of customers eases worries.

Last year was very busy for Premec and the 12-month turnover increased from 15.2 million euros in the previous year to 22.5 million. At the end of last year the number of staff was 127 and it has since grown somewhat.

The merger has brought new support

“There has been no need to regret the sale of the company,” CEO **Juha Männistö** says at the beginning of the interview. Männistö continues as Premec’s CEO for the time being. “I’ve still had a great time at work. There is no rush to retire.

“Let’s wait now to see if it quiets down in the fall. Until now, we have had full employment and a little more staff has come. Of course, the world situation makes us think but, for example, the almost complete shutdown of the construction industry would not affect us very much.”

According to Männistö, Darekon group clearly wants to develop the business and support the subsidiary in various matters. The Monitor ERP system, which is in use at all Darekon plants, was also put into use at Premec at the turn of the year. Little by little it has been made to fit Premec’s needs, the tricks of the system have been learned and how to find the desired information from it.

Internationalisation requires a lot of work

Premec has had plenty of work, especially in the energy sector, where a few companies are currently growing strongly. Premec has been able to rent a nearby facility so it can match that growth.

Participating in a subcontracting fair in Tampere is quite a natural move, and in mid-November Premec, together with Darekon’s other companies, will participate in the Elmia subcontracting fair in Jönköping, Sweden.

“We have been exhibiting in Elmia for several years to make our name known and to seek new contacts,” continues Männistö. “We have had customers in Sweden for more than ten years and we are competitive there. However, it is not easy to find new customers. Most often they can be found through current customers which operate internationally. Finding a new local customer is not easy.”

Cooperation with Klaukkala

In the summer last year Premec was busy with work and at the same time it was quieter at the Klaukkala facility. In that situation, the factories talked to each other and the load was evened out. Both factories also have some machines that the other does not, so the facilities complement each other in this respect as well.

One example is Klaukkala’s robotic sealing extruder, which seals cases and covers with a two-component silicone mass by extrusion. In many ways, the seal is substantially better than a seal glued to the sealing surface or a seal extruded from polyurethane. The silicone seal is non-combustible, tight and has a long service life.

“The cooperation with Klaukkala has gotten off to a good start and I think we are already selling work for several millions to each other,” says Männistö. “Cooperation with the Haapavesi facility also seems to be developing well.” ■

AN EXCELLENT YEAR AT THE KLAUKKALA MANUFACTURING FACILITY

The Klaukkala facility is Darekon's logistics hub and multifunctional workshop. Sheet metal production, final assembly, robotic welding, design work, painting and much more are carried out there. Many good things have happened in the past year at the site.

For a long time the final assembly and testing of customers' products has been carried at Darekon's Klaukkala facility. Products are then put into their final packaging and delivered directly to the end users. There was a dip in orders there in the spring of last year but now cyber security firm Tosibox has brought even more work to the business.

Almost like a Phoenix

"In the spring of last year, business didn't look as good as it does now," says Klaukkala plant director **Pekka Antikainen**. "Our largest customer had to cease operations in April 2022, which caused a big dent in our turnover. We started negotiations to change staffing levels but at the same time it happened that Darekon's subsidiary Premec in Ylivieska had almost too much work.

"We ended the negotiations right away and transferred employees to the produc-

tion of sheet metal parts in two to three shifts. Last year, we familiarised at least 20 people with new tasks. We also managed to quickly acquire two more press brakes - one of them equipped with an arm robot."

According to Antikainen, the situation has been excellent since January of the current year. A lot of production is done with Premec, especially for a major customer in the energy sector, and turnover is increasing. A subsidiary in the US of the client that actually caused the previous year's cut has also been activated and brings in a lot of work.

Acquisitions support the whole

Darekon has made several acquisitions during its operations. Initially the businesses in Savonranta and Klaukkala, then Apelec, the Swedish business and lastly Premec.

"Premec is strong and profitable in itself, Apelec was merged into Klaukkala and

brought us significant customers, and now strongly developing cooperation with Premec supports us in every way," Antikainen continues. "Production on the energy side is growing strongly both at Premec, here at Klaukkala and at Haapavesi.

"Final assembly and logistics are an important part of Klaukkala's operations, and in this regard our sellers have acted excellently. We have entered into a completely new type of cooperation with Tosibox."

Tosibox is building a software house

For more than ten years Tosibox has been manufacturing its patented communication solutions, which make it possible to simply build completely secure remote connections. The manufacturing of its devices previously took place in Oulu and Darekon has supplied the demanding circuit boards for the devices since the beginning of 2017.

However, Tosibox's strategy is focused on becoming a software house. This is achievable because of an extensive cooperation agreement between Tosibox and Darekon.

"We benefitted from long and good experience in circuit board manufacturing at Darekon's Haapavesi facility," says **Kaija Sellman**, CEO of Tosibox. "As our business model developed, it was time to give up our own device manufacturing and use ready-made platforms found on the market as a platform for Tosibox's software. The conversation with Darekon started a new, excellent form of cooperation."

"Now Darekon's Klaukkala facility makes the necessary equipment assembly for us, acquires most of the components, installs the software, packs the equipment and sends them to the end customers," continues **Tiina Keränen**, Tosibox's outsourcing project leader. "The operating model that we started at the beginning of the year perfectly supports our strategy." ■



Amada press brake equipped with a Yaskawa arm robot has brought Klaukkala facility more capacity for the production of sheet metal parts.



THE POLISH FACTORY
TEST TECHNICIAN,
PROBLEM SOLVER AND
ELECTRONICS EXPERT

ŁUKASZ TOMASZEWSKI LOVES FORESTS AND MOUNTAINS - AND HELPS ALL HIS COLLEAGUES IN THEIR WORK

Born 47 years ago, Łukasz went to the electronics school of the Unimor company, which once manufactured televisions, and graduated from there as an electronics installer. He joined Darekon in Poland in 1998, in the early days of the company.

Lukasz remembers the early days of Darekon in Poland, when the firm's location was changed 2 to 3 times every few years and the staff were like one family. However, after six years, various personal reasons led to a change of job and Łukasz moved

Łukasz Tomaszewski (standing) handles customer connections in testing at Darekon. In the picture, he is talking to Adam about testing the product.

to another company in the electronics industry, taking on the responsibility for ICT testers.

Lots of traveling and good friends

“In my new position, I started traveling a lot,” says Łukasz. “I visited many European countries. I was in India twice and also in Finland 4–5 times, in Oulu and Ylivieska. Many good friends from France, Sweden and of course Finland remain from those times. I gained a lot of work experience and learned new things.

“However, five years ago I returned to Darekon, almost like coming back home. I am now responsible for customer connections in testing and help with problems that arise with the products. For example, I fix products that don’t pass testing and I’m the customers’ first point of contact here for various testing issues. I get to make a lot of solutions at different levels and the work is very interesting. Every day there is something to figure out.”

Working in new ways

Łukasz remembers the beginning of his working career, when getting information was much more difficult than it is now. One had to go to the library and find descriptions of the components there. Now YouTube and Google help and information is available to everyone. Back in the day, there were no “how-to-do” guides and no one to ask.

“Transferring companies is a difficult decision, because all the new things to be faced are difficult at the beginning,” continues Łukasz. “However, I am happy that I always get new challenges from customers and colleagues. I learn from all of them and become an even better employee. Sometimes there are many jobs to be done at the same time, but Darekon gives you space to focus on the most important.”

Łukasz’s son Mateusz has also worked at Darekon in the summer and apparently plans to follow in his father’s footsteps. However, Łukasz guesses that Mateusz wants to be even better than his father.

Displays are a major revolution

During Łukasz’s career a lot of development has taken place in electronics, and after thinking for a moment, he raises the development of displays as one of the biggest changes.

“I often visited my grandmother who lived in the countryside,” says Łukasz. “I remember how she had a black and white television on the kitchen table. Once the TV had stopped working and grandma asked me to fix it. The problem was in the high-voltage transformer, and fixing it was a bit dangerous, because the output voltage was 17 kilovolts. However, the device was repaired.”

Much later, Łukasz visited the same – now deserted – house and placed his modern laptop on the same table in the kitchen. The difference to the old times seemed really confusing.

Mountains are the most important

The conversation turns to the world’s situation and people’s actions.

“There have been many difficulties in recent years, but we are still only people – and people are not as important as they imagine,” says Łukasz. “Mountains, forests and all animal species are equally important. What are we compared to the stars? Still, some people want to get everything right away.”

In Łukasz’s opinion, the mountains are the most important. He can go to the forest every week and often does so on bike trips. The mountains are 700 kilometres to the south, but he goes to the mountains with his family every year.

“Every summer we go to the south, for example to the Pieniny National Park and the Tatra Mountains in Slovakia,” continues Łukasz. “We start with low mountains and train our legs for many days. Then we can go to Tatra. We often go there in the winter as well because my wife skis. I personally like to walk in peace, sometimes sit and look around, both in summer and winter.”

Passionate reader and exerciser

It is not so easy to get to the mountains because they are far away – there is forest everywhere. A few days earlier, Łukasz had been cycling in the forest and stopped occasionally to sit at the foot of a tree, look at nature and read a book.

“Terry Pratchett is my favourite author, I have almost all of his books and some I have read ten times. Maybe I should try something else sometime,” muses Łukasz.

When asked how his wife would describe him, Łukasz thinks that his wife considers him an ADHD person; he is always in a hurry. He can only focus on one thing at work. At home, music is important and he reads at the same time as listening. He can’t stay still either – but can nevertheless sit under a tree and read.

On the other hand, in Łukasz’s opinion, colleagues might describe him as a person who always looks back and observes himself. He is also never angry, even if someone breaks the tester’s cord, for example. Łukasz also always helps his colleagues in their work – not only with testers, but he might fix a card, for example. ■

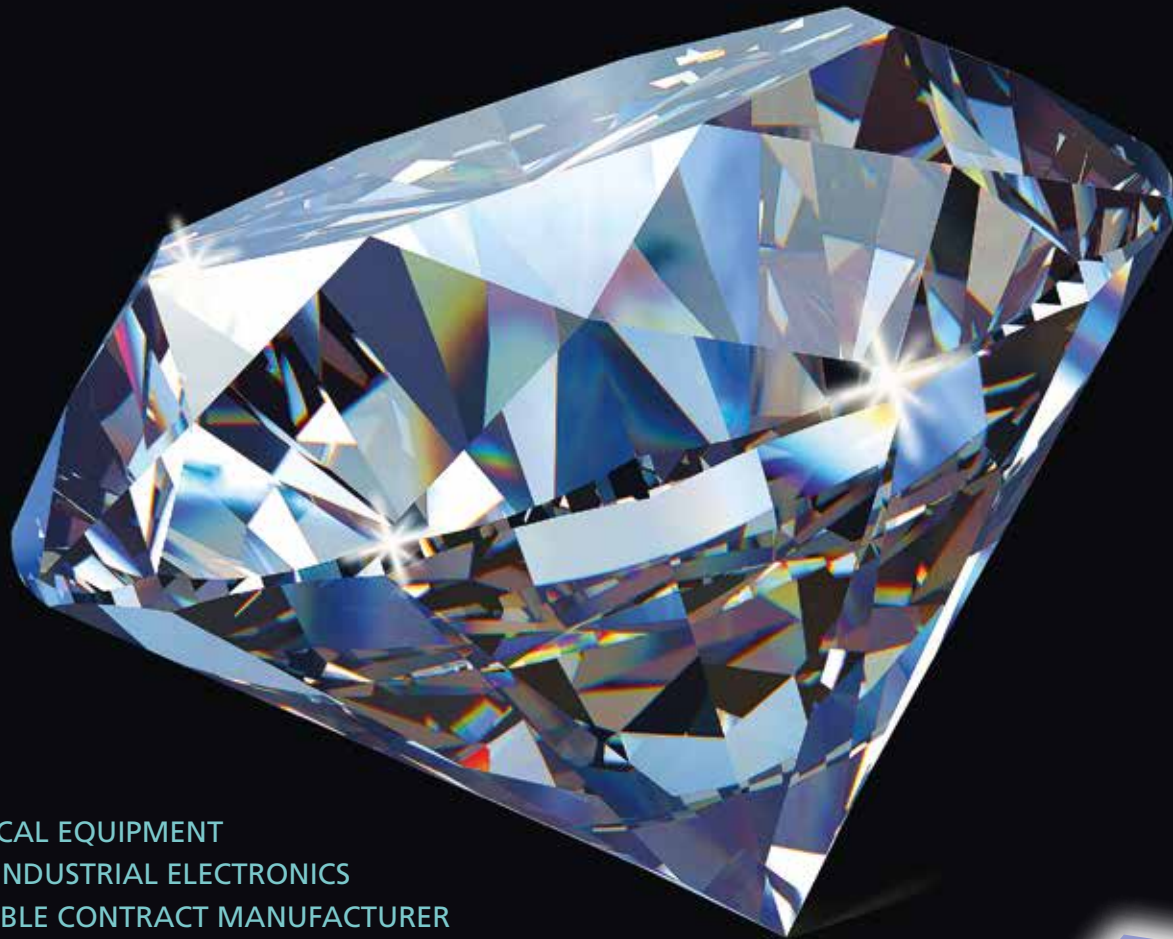


Łukasz goes hiking in the mountains in southern Poland with his wife and son every year.



Mountains are the most important.”

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