riview

A RIMASTER MAGAZINE • 2/2023

Meet Rimaster's heroes!

Find out all about the development of riInforced, riCab, riFuse and riCon

12-16

Bruks-Siwertell – Using riFuse as a standard

3-5

Malwa – A slightly smarter forestry machine

8-9

Welcome to our world of SIMPLICITY

CONTENTS

Welcome to Rimaster

Rimaster is a leading supplier of electrical systems, wiring harnesses, electrical cabinets, electronics and cabs for specialized vehicles and industrial systems.
We are a global group with origins and head office in Rimforsa, Sweden. Today Rimaster is approx 1400 employees operating in ten companies around the world.
We have an organization for sales, design, development and production in Sweden, Poland, Belgium, France, Germany, China, and Serbia.

Welcome to our world of Simplicity.

Rimaster AB
Industrivägen 14
SE-590 44 RIMFORSA
+46 494 795 00
info@rimaster.com
www.rimaster.com

PUBLISHER
Tomas Stålnert, tst@rimaster.com

Production: Effect Reklambyrå
Photos: Rimaster, unless otherwise stated.
Image, front: Örjan Karlsson

Own products that add value

This issue of Riview is dedicated entirely to Rimaster's own products. Products that have been created with just one purpose: to help provide our customers with even better overall deliverables.

Rimaster started exploring the options for in-house development and manufacture of certain products vital to customers' system solutions even before the pandemic. These were products that weren't always easy to source, as the pandemic came to reveal. Or solutions that quite simply didn't exist.

So here they are: riCon, riFuse, riInforced and riCab. Products developed and manufactured in-house that make our customers' electrical systems smarter, more flexible, robust and complete. The timing couldn't be better. The situation now is that supply chains are stable once again, but with very stringent demands for fast delivery times and custom solutions. It feels fantastic to be able to offer customers our own products, with the innovative added value and increased control that this entails. The fact that our products also support different types of charging solutions means they are really right in time.

I'm impressed with how our talented organization has managed the feat of identifying what our customers need, developing products, and taking them all the way from the drawing board to series production – in the middle of a pandemic. This kind of thing requires enormous strength and determination.

So my warmest thanks to all Rimaster staff and customers – none of this would have been possible without our superb cooperation.

Tomas Stålnert, CEO, Rimaster Group

Photo: Bruks-Siwertell

Bruks-Siwertell uses riFuse as standard.

Being a mobile chipper really isn't easy. Chipping timber products, ranging from fuelwood to forest residue, is a heavy, labor-intensive job. Bruks-Siwertell has used the Rimaster riFuse power supply unit to create optimal conditions for monitoring and control – while also reducing the risk of surprises.

FACTS: BRUKS-SIWERTELL

Bruks-Siwertell is a world-leading group working with bulk handling and timber processing solutions. The company's machines handle raw materials from forests, fields, quarries and mines all over the world and maintain critical supply lines for manufacturers, factories, power plants and ports. The group has a presence in the USA, Sweden, Germany, China, the Philippines and Taiwan, and has distributors all over the world.
Mobile chippers are developed and produced in Arbrå in Sweden. Bruks-Siwertell mobile chippers deal with everything from branches and tops of trees to fuelwood, and most of their customers are contractors who often buy and operate the machines themselves.

"We've been working with Rimaster since 2019, when we made changes to both our hardware and our software. That was when we opted to bring in Rimaster as a one-stop supplier of electrical systems – from wiring harnesses and hardware to software solutions. riFuse became a part of that total solution, and it seemed natural to build on the technology when it was time to develop our mobile chippers," says Christian Ehn, the man responsible for mobile chippers at Bruks-Siwertell in Arbrå.

The electric heart

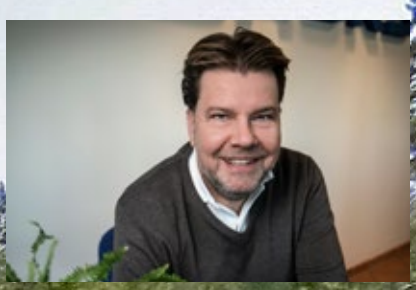
riFuse is the electric heart of the two new machine models, 806.3 ST/STC and 1006.3RT. There are currently approx 20 machines using riFuse at customer sites, with good results.

riFuse is a useful product for improving monitoring and control, according to Christian Ehn.

"It helps the driver to identify sources of problems quickly, often even before a breakdown occurs. riFuse also eliminates the need for regular fuses and relays – that is, parts that often fail and need to be replaced."

This functionality provides an opportunity for monitoring that can be used for proactive work.

"riFuse is constantly generating information that we can turn into input. That's what we get out of it. For instance, the machine can be handled and operated less roughly to keep loads and problems to a minimum."



Christian Ehn, general manager at Bruks-Siwertell.

Reduced risk of downtime

Reducing the risk of downtime is essential in this rough environment. A mobile chipper is a huge investment, and of course it's important for any contractor choosing a Bruks-Siwertell to feel confident that they've chosen a machine that will battle on regardless of the circumstances.

Bruks has been able to make a number of improvements thanks to riFuse. This includes controlling and regulating fans and ensuring that other components are loaded efficiently.

"The challenge with mobile machines – which isn't something that regular industrial plants have to contend with – is that we work with DC and not AC. riFuse gives us the option of starting up in a more controlled fashion and reduce the load on the equipment."

At breakneck speed

"Technology is developing at a tremendous pace," says Christian Ehn.

"Our mobile chippers work with living materials and external conditions that are hard to control. That's why we need robust machines. But that said, they've become more complex to handle as high-tech solutions and more electronics and hydraulics have been introduced. In this regard, riFuse gives us the opportunity to implement new technology and improve our products in a way that's consistent with everything Bruks traditionally stands for."

“It felt great to resolve these problems for our customers.”

Developing and manufacturing products in-house requires expertise, endurance and patience. As a customer, you have exclusive access to Rimaster products that have been developed to offer optimum functionality in your applications. CEO Tomas Stålnert and Senior Product Developer Ulf Almén explain the strategy behind “Rimaster’s Heroes”.

It doesn’t go without saying that a company like Rimaster would develop and manufacture its own products. Why have you taken this step?

T: Rimaster is a system provider. We exist to deliver smart, functional, total solutions that make life easier for our customers and take their machines to a new level. We haven’t defined an distinct strategy to develop our own products – but we have taken advantage of opportunities as they’ve arisen. riFuse was a way for us to safeguard the functionality of our system solution. We enhanced flexibility and paved the way for smart diagnostics.

U: All of Rimaster’s own products have been developed as part of our mission to supply systems to our customers. We saw there were no solutions that met our customers’ needs. Our cab, the riCab, met two needs. By offering a cab, we’re able to provide a total solution where the cab and electrical system go hand in hand. But it’s also a way of serving customers who’ve found it hard to get hold of a bare cab produced in small series. Smaller customers with limited resources can have a cab fitted out however they like. From basic to advanced.

“All of Rimaster’s own products have been developed as part of our mission to supply systems to our customers.”

T: riInforced was created under similar conditions. There were products on the market, but lead times were long and the offerings were pretty inflexible. These products weren’t available in the combinations that our customers needed. So instead of adding more suppliers to an already complex chain, it felt great to resolve that problem for our customers.

But customers might sometimes ask for help with product development, right?

T: riCon is one such product. The customer wanted more options on the market and asked if we’d consider helping out with development. It was logical for us, because that kind of product allowed us to offer even more complex systems where customers can buy the entire design.

What have these development projects meant for Rimaster?

U: We developed all of the products from scratch, so the organization has learned a lot. We’ve gained an even deeper understanding of system integration and how the market works. And what’s more, we’ve proved to ourselves and others that we can do it. That’s incredibly valuable.

T: Our own products are important from a sustainability perspective, too, as we shorten the supply chain and take control of material selection, material management and production conditions. This allows us to offer products with high traceability.

U: We’re on the ground. Rimaster manufactures the harnesses, so we really understand what our customers’ need. That brings us closer to the market, and I think it means we also find it a little easier to perceive needs than the catalog companies.

T: But – and this is important:. Rimaster is and will remain a provider of systems, not a manufacturer of components.

Photo: Oyan Karlson

"We exist to deliver smart, functional, total solutions that make life easier for our customers and take their machines to a new level"

Tomas Stålnert, CEO.

Photo: Oyan Karlson

"We developed all of the products from scratch, so the organization has learned a lot. We've gained an even deeper understanding of system integration and how the market works."

Ulf Almén, Senior Product Developer

Malwa – a slightly smarter forestry machine

Why settle for "good enough" when you can take unsmart features and make them smart? riFuse is fitted as standard in Malwa's innovative forestry machines.

It hasn't taken long for Swedish start-up Malwa to make an international name for itself in the forestry industry. The company's lightweight, off-road forestry machines that protect the land and the environment are truly state-of-the-art. The company was founded by Magnus Wallin in 2009, and Rimaster has been there every step of the way. The electrical systems have been developed by Rimaster Development in Söderhamn, which also programs the software. Integrating the Rimaster riFuse power supply unit was a natural step, and now it's fitted as standard to Malwa machines. The basic software in Malwa machines is a Parker IQAN system programmed by Rimaster that controls the riFuse units.

More user-friendly

The options for diagnostics and efficient power distribution are what make riFuse the obvious choice, according to Ludvig Johansson, Head of Design at Malwa.

"We take things that are often built simply and with no intelligence of any kind and try to run them through riFuse. Then we can integrate them with the control system and build new features. Unintelligent features become user-friendly, quite simply."

Many of the user-friendly features Ludvig Johansson talks about relate to the operator's working environment: lighting, fans, and windshield wipers.

"Our options for monitoring and diagnostics reduce wear and tear and make the job run more smoothly. We monitor the pumps using riFuse, for example. The operator can then use the control system to find out whether the pump is running easily or is finding it hard to move. That means there's no need for a level sensor to monitor the water tank."

Better energy management

Windshield wipers are another smart example.

"We've been able to use riFuse and the software to create intelligent intervals here that are adjusted depending on how the dryer is running."

Work lighting is an extremely important part of the machine, as it often operates all day long. But that said, the machine has to be efficient in terms of power.

"We can use riFuse to check that the machine isn't running with more lights than it can handle if power is limited. If it is, the system allows some lights to be switched off, which results in better resource utilization and energy efficiency."

New supermodel

riFuse has been integrated into all harvesters, forwarders and combi machines manufactured by Malwa, and of course it's also at the heart of the new 980 model that will be rolled out this year.

"The 980 is an eight-wheeled thinning machine designed for second thinning, but it's still built according to the Malwa concept, which enables gentle thinning and reduces the risk of damage."

riFuse is one of the key features that makes Malwa the ideal solution for contemporary forestry, instead of building on the old, unsmart solutions of the past, according to Ludvig Johansson.

"Why settle for non-smart features when you can actually make them user-friendly?"

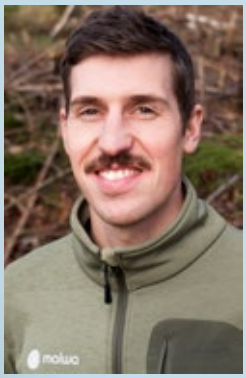
FACTS: MALWA FOREST

Malwa Forest develops thinning harvesters and forwarders according to the "low impact forestry" principle for gentler forest management. The machines don't need strip roads – they're so small that they can move around between the trees.

The company was founded in 2009 and is now the Swedish market leader in its segment. But international interest is growing steadily, and at present every second machine is sent for export.

Development and production take place in Skene, Sweden.

Photo: Malwa



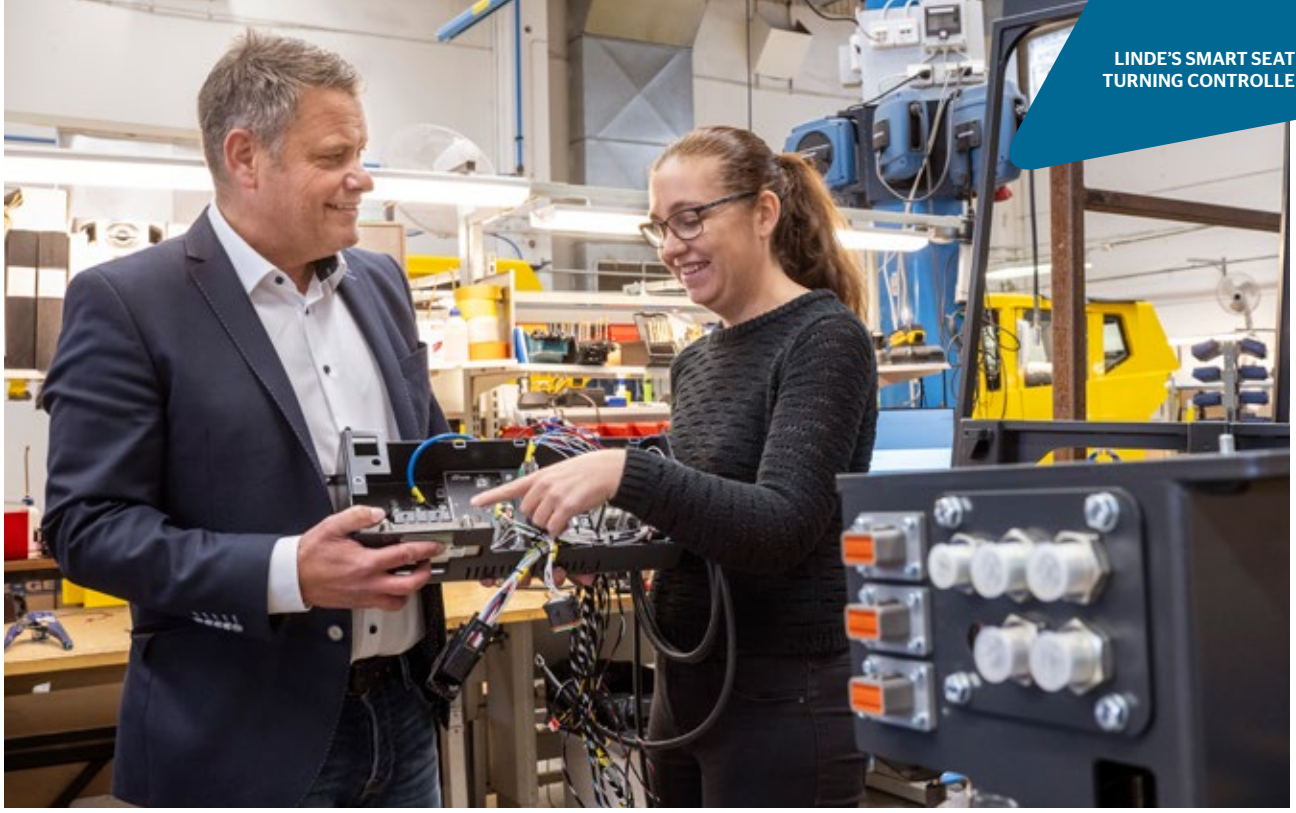
Ludvig Johansson, Head of Design at Malwa.

"riFuse is one of the key features that makes Malwa the ideal solution for contemporary forestry"

Photo: Örjan Karlsson

Linde's smart seat turning controller sets new standards

The Rimaster riFuse power supply unit played a prominent role when forklift manufacturer Linde Material Handling asked for help with developing a new rotating cab seat. "For us, riFuse was a smart way to help the customer find a good solution," says project manager Pierre Vernersson.



Claes Creutz and Karin Hiertonn review the components in the control system for Linde's rotating driver's seat.

Forklift manufacturer Linde Material Handling and Rimaster Cab & Mechanics go back a long way.

"We're building a forklift cab that will be fitted with a reversible driver's seat. Linde asked us to help with the design when they wanted to improve the concept," explains Pierre Vernersson.

"Plug & Play"

The mission: to develop a seat turning controller with a smooth "plug & play" solution. The company was asked to design a neat and tidy interface between the cab and Linde's other equipment and applications.

The objective was to facilitate the work and shorten the time needed for customers to assemble their forklifts with different features.

"Our aim was to identify solutions with harnesses and interfaces that customers can build on directly. They used to have to spend a lot of time dismantling and assembling different components."

The target scenario also included simpler troubleshooting and better service levels, at a better price if possible.

Intelligent solutions

No sooner said than done. Rimaster Cab & Mechanics put together a dream team that also included experts from Rimaster Development. The surge in development took place at Cab & Mechanics in Horn, where designer Karin Hiertonn became something of a spider in the web.

"We've done everything. From development of the mechanical details and 3D models to devising the actual control system. riFuse became the obvious way to work with system integration. riFuse means we can also offer intelligent solutions that add value beyond the purely mechanical aspects," says Karin.

The process also included a test rig that tested and logged 250,000 seat turning cycles. After the tests, a first precise turning controller was built and assembled by machine. Series production is now underway.

"We've done everything. From development of the mechanical details and 3D models to devising the actual control system. riFuse became the obvious way to work with system integration."

The sum of its parts

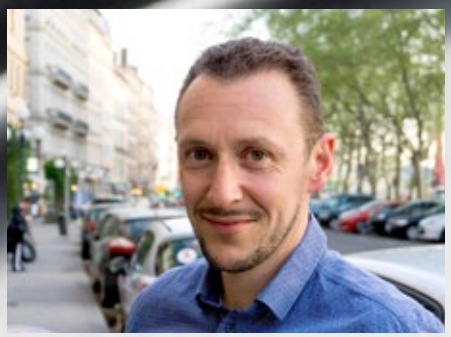
Pierre Vernersson believes that this successful development project is the sum of a range of different parts.

"Having access to riFuse in a project like this is a huge advantage, of course, when it comes to system integration. But the team has also enjoyed fantastic communication and dialogue with the customer. It's all been characterized by transparency and understanding of each other's inputs all the way along the line. Moreover, I think we have some very talented designers who aren't just professionals in practical terms. Karin and the team have also created some fantastic 3D visualizations that have made it easy to include and involve everyone."

Pierre Vernersson, Project Manager

Meet Rimaster's heroes!

Smart solutions that didn't exist. Products that were hard to get hold of or could be improved. We took matters into our own hands so that we could offer our customers the best possible system solutions. This is the story of Rimaster's own products.



Julien Fambrini, Product Manager, Rimaster France.

riInforced

What is riInforced?

"riInforced is Rimaster's overmolding concept. A premium product range and solutions designed to meet uncompromising demands that comes with harsh environments."

What are the advantages of RiInforced?

"riInforced concept is based on a sustainable and cost-effective low pressure injection process. It enables us to enhance standard connector systems with impressive protection levels against temperature, vibration, water & dust intrusion. Customer's products and machines are facing extreme conditions and the harshest environments. As a system supplier and expert in electrical systems, we can now offer solutions to reach the next level in performance and avoid extremely costly machine failures in the fields. riInforced will help Rimaster to significantly reduce lead-time for harness and systems manufacturing. With full control on the manufacturing, we can produce according to the exact needs for an easier integration, we are thus able to drastically cut down waste while offering savings to our customers."

What is your next move regarding RiInforced?

"We constantly keep customer's constraints and expectations in focus. riInforced has been created from there and we now have a solid product base line to answer most of the needs already. We do have an ambitious product roadmap however, it's important to capitalize on what has been launched and validated and to give that awareness to our customers. Rimaster's spirit and strategy is also central, some words like "ability to create simplicity" and "high Mix Low volume" can summarize what has been the guideline to build up the industrial setup for RiInforced. What it means concretely is reactivity, fast development times, accessible tooling costs and capacity to handle small and medium volumes. Our wish is definitely not to create a product catalog but to offer alternatives and additional solutions and become an even better system supplier. We are ready and exited to look into every customer's requests and opportunities to further expand. Stay tuned…"

riCon

What is riCon?
"riCon is a connector that Rimaster has developed for the material handling industry but also for all markets using low voltage (LV) traction batteries for electric power vehicles. The special riCon design is aimed at high demands on charging cycles and robustness. The standardized range extends from 80 A up to 400 A with 3 connector sizes. Due to industry standard current stage II 80A connector can be used up to 120A, 160A connectors up to 250A and 320A connector up to 400A.

What are the advantages of riCon?
"Due to the molded design of riCon the allowed heat-range enables current stage II with a comfortable safety buffer. This allows customers to use smaller connectors in areas where bigger ones needed to be used in the past. This saves build-in room in increasingly complex vehicles. The design is adapted to the latest requirements for signal connectivity and durability, as well as international use."

Whats your next move regarding riCon?
"Rimaster evaluates changing market requirements and does so very close to our customers. As a result, we develop new solutions for signal connectivity and connector ergonomics in use. Stay tuned– there will always be something new coming."

Jörg Hagmaier, Product Manager, Rimaster Germany.

riCab

Ulf Almén, Product Manager.

What is riCab?
"riCab is a generic cab designed for customers who don't need so many cabs in the first place, and who don't want to invest a lot of resources in developing a cab of their own. It's also an option for anyone who can't find a suitable standard cab on the market but who wants to be able to fully customize the cab according to their own needs."

Why have you developed riCab?
"Besides the obvious customer needs – that our customers couldn't find the cabs they were looking for, or were interested in starting production of their own – the cab is closely integrated with the electrical system. A good cab is simply a vital part of the complete system solution for the customer. Being able to offer the cab as well is a way for us to ensure we provide a highly functional whole package, with cab, electrical system and cabling."

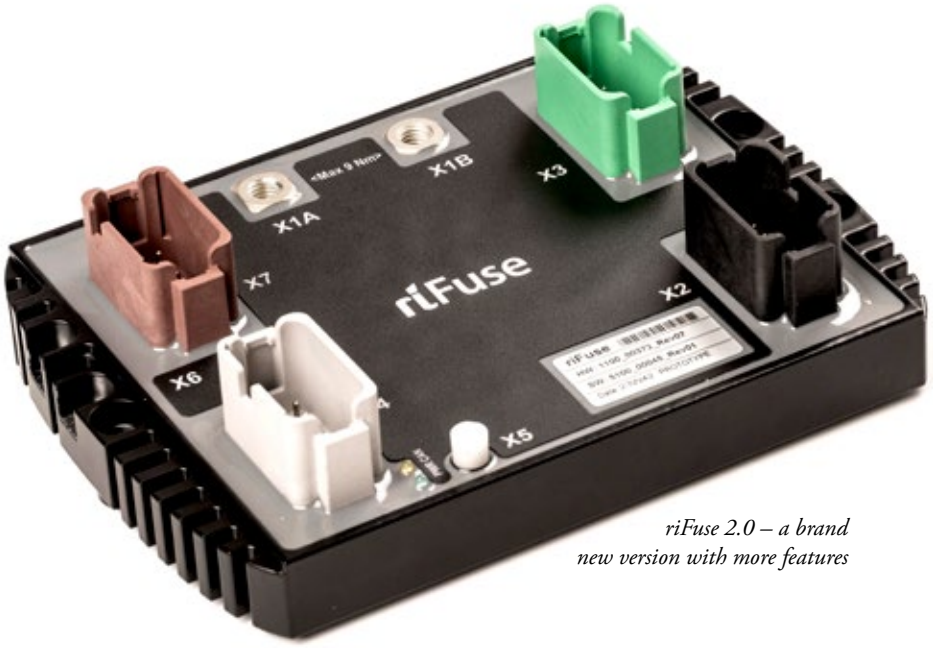
What are the benefits of riCab?
"It enhances accessibility for our customers. You can get the cab 'bare' and customize it however you like, so it's very adaptable and cost-effective from a customer perspective. The physical dimensions are constant, but you can alter the choice of doors and windows as well as the interior functionality. We can also equip it with an electrical system. You can choose whether you want it completely clean, with certain components added, or fully loaded. Buying a fully fitted cab and then removing the features you don't want is relatively common these days. That's why I think riCab has a strong sustainability argument. Building things when you don't need to and then discarding them is a waste."

What's the next step for riCab?
"We're constantly developing the riCab so that we can share experiences and solutions with other cab customers if we need to."

riFuse

What is riFuse?
"riFuse is a device for distributing a power supply to all consumers in an electrical system. The traditional option usually consists of a fuse box in combination with relays. With riFuse, distribution is easy without physical fuses."

Why have you developed riFuse?
"We recognized that this was a missing feature, and developed riFuse as a natural complement to our own electrical systems. Being able to offer riFuse together with electronics and cabling in a holistic solution makes life much easier for customers."



riFuse 2.0 – a brand new version with more features

What are the benefits of riFuse?
"By far the biggest advantage of riFuse is that it's a robust system with superb diagnostics that facilitate troubleshooting and reduce the risk of downtime.

riFuse is based on having a master system with a display in the machine that brings all the functions together. If a cooling fan in the engine isn't working, the riFuse will let you know and the system will tell you right away instead of you having to troubleshoot based on secondary symptoms such as the engine overheating. The system keeps track of both visible and hidden problems. You never have to spend time troubleshooting different fuses, and you don't have to deal with broken fuses that need swapping out. Nor do the machine and cab need to be designed with spaces for accessible fuses, as riFuse can be placed in an ideal location for wiring instead. This allows you to avoid illogical positioning because fuses have to be accessible. The riFuse unit can be positioned close to its consumers, so you don't have to have lots of long cables and this simplifies cabling. The riFuse can be mounted anywhere on the machine and doesn't really require access. It's also been developed by Rimaster to withstand the harsh, dusty and wet environments that specialized machines often work in. The cabling is less complex but still more functional, and it's easier to manufacture and assemble."

What's the next step for riFuse?
"The riFuse is now available in a beefed-up 2.0 version that can drive larger currents and motors. One of the advantages of riFuse is that you can use the outputs to regulate the power-up process so that you get a soft start that puts less strain on the machine. The new version makes it easy to handle more loads, and even more powerful loads."


Lars Olsson, Product Manager, Rimaster Development.

Rimaster AB, Industrivägen 14 | 590 44 Rimforsa, Sweden | +46 494 795 00 | info@rimaster.com www.rimaster.com

Rimaster Electrosystem
Industrivägen 14
590 44 Rimforsa
Sweden
Andreas Kronström
+46 705 658 904
akr@rimaster.com
Patrik Andwester
+46 703 991 448
pan@rimaster.com

Rimaster Development
Bröksmyravägen 31
826 40 Söderhamn
Sweden
Conny Nyström
+46 70 517 33 04
cny@rimaster.com
Johan Lundh
+46 72 6010066
sejlu@rimaster.com

Rimaster Cab & Mechanics
Industrigatan 1
590 42 Horn
Sweden
Ulf Almén
+46 705 173 309
ual@rimaster.com

Rimaster Poland
Ul. Kolejowa 4
78-550 Czaplinek
Poland
Hubert Walachowski
+48 602 315 843
plhwa@rimaster.com

Rimaster France
Actipark Bat D
662 Rue des Jonchères
69730 Genay
France
Julien Fambrini
+33 624 340 049
jfa@rimaster.com

Rimaster Benelux
Halstraat 41
3550 Heusden-Zolder
Belgium
Bart Maes
+32,474,320,851
bma@rimaster.com

Rimaster Germany
Jörg Hagmaier
+49 151 12427570
dejha@rimaster.com

Rimaster Ningbo
Building 7#, No.1188,
Zhongguan Road,
Zhenhai Economic
Development Zone,
Ningbo city 315221,
Zhejiang Province,
China
Yong Shen
+86 188 580 114 86
ysh@rimaster.com

Rimaster Serbia
Glavicki put b.b.
35250 Paracin
Serbia
Maja Stanojevic
+381698076554
rsmst@rimaster.com