New solution to transporting windturbines

Premiere of new snow machine
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Task-critical app
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Three T record in 2013
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Approved vehicle drivers
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Being in this business for over 20 years has taught me one thing for sure: sometimes it’s up – sometimes it’s down. The year of 2013 will go down in our history as one where we were able to close several of our deals – deals that had been in the background for a long time – in a very satisfactory way. Being innovative and different within the railway industry makes you much more aware of the obvious: it takes time to introduce new ways of thinking and new technology.

At the same time you can start to feel that all your work, all those meetings and all the modifications aren’t leading anywhere. And that’s when those doubts start to creep up on you... ’maybe it wasn’t as brilliant as we thought to start out with?’ and so on.

You just have to persevere, stick to your beliefs, never give up and keep grinding away. As I hinted at initially, last year treated us with several ‘I-told-you-so’ moments! Here are a few examples:

- The first trial of transporting wind turbine equipment by rail.
- Our complete breakthrough in the UK with a full order book for 2014.
- The introduction of the new SR 200 snow plough, completing our line-up of best-in-class snow machines.
- The sale of Railcare Tåg to French SNCF, finalizing our restructuring programme.

Besides these there have also been all sorts of other positive moments, all of which are not only very encouraging for Railcare’s future, but also means that it’ll be even more fun working at Railcare. And having fun at work gives us the extra energy we need to work on more ground-breaking projects! In this edition of Railcare News we highlight some of the main events. But you will also notice that we aren’t settling down. There are always ongoing projects and new ones appearing on our horizon. And as usual you can always follow us on www.railcare.se and www.railcareexport.com

Ulf Marklund, CEO,
Railcare Group
Less traffic disturbance, better for the environment

At the beginning of December 2013 Railcare and Siemens Wind Power performed the first successful trial of transporting wind turbine parts by rail. The parts were loaded in Nyborg, Denmark and transported to Långsele in Sweden. As Hans Flodmark, operational manager at Railcare Logistik AB, comments, “We have told everyone for several years that this should be possible, in dialogue with Siemens. Now we’ve finally shown that Railcare is a good development partner, and proved that the railway is a real alternative”.

According to Railcare’s estimates it is possible to transport parts for up to one and a half wind turbines on a single 600m long train set. In comparison to transport by road and truck, the carbon dioxin emissions will be reduced by 90%. As Hans points out, “This makes perfect sense. The wind energy industry’s focusing on environmental issues so it should also take transportation into account”.

Cooperation and fast development

Railcare Logistik’s business idea is to be a combined train operator and development partner. In order to safely attach the turbine parts to the wagons, for this first trial new adapters were developed. After the final go-ahead from the customer and information on which parts were to be transported during the test, the final construction of the equipment and the wagons was achieved in only three weeks.

Railcare has developed a cassette-based solution that means they can be loaded one by one on to the trailers for final transportation to the intended site. “It’s not very complicated technically speaking, and the weight is not an issue”, says Hans Flodmark. “We wanted to prove it is possible to be different and find new solutions in a fast and hassle-free way. If you can establish a good dialogue and all partners contribute with their individual competences, it doesn’t have to be complicated.”

“To find a way to transport the wind turbine blades we have arranged three meetings with Trafikverket, the Swedish Transport Administration, BaneDanmark and Siemens. Captrain is our partner regarding the practical work in Denmark.”

Blades for further lift

“Our plan is to continue to develop this idea and perform further tests in the spring 2014”, says Ulf Marklund, CEO at Railcare Group AB. For the turbine blades that are up to 55m long, no less than three railway wagons are needed.

…and reduced costs

For wind turbine blades there are significantly large savings to be made in comparison to hauling by lorries, especially when it comes to reducing the interference with other road traffic. Rail means reducing the need for escort cars, road blocking and travel plans. The Swedish Transport Administration has also stated that transports longer than 200 km should be avoided.

“In the USA transporting wind turbines by rail is common. We now hope for a sustainable and rational system where the return transportation can also be utilized effectively. It feels really good that something that we have been figuring out for several years is now about to become a reality.”
They want to create a loco and wagons testing site

If it is possible to create a site for winter testing of cars in northern Sweden, it must be possible to test locos and wagons as well! Lars-Åke Tjärnström, an entrepreneur with a railway past, got this idea on his way back from the Swedish mountains when he passed a railway between Jörn and Arvidsjaur that had been closed down.

After contact with Railcare Atumo and the local authorities in Skellefteå and Arvidsjaur, things were set in motion and he started up the new company: Rail Test Nordic.

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Project development will take place during 2014 and testing can begin in 2015-2016 if everything goes according to the original plans.

“‘There is a great need, as there are only short round tracks in Europe,’” says Lars-Åke. “Here you would get 30km of straight track and the opportunity to test during harsh winter conditions. There are around ten manufacturers of locos and wagons, and those I have met so far are really interested. They also plan to increase their testing activities by round 50 percent, so there is a big market.”

Billion SEK investments
Of course it is a very large investment to up-grade the tracks and build the basic functions, as Lars points out.

“We rely on government support, but it will also be a challenge for the entire
With a collective vision of loco testing, from the left Bengt Fröberg and Hans-Ola Jonsson, both at Atumo, Lars-Ake Tjärnström, Rail Test Nordic and Lennart Wallberg, IUC Västerbotten.

the standard Railcare fashion. The vacuum machine has been further equipped with a modified ore wagon instead of the usual wagon used in Railcare sets. All the material that’s removed goes to the ore wagon that can be emptied in the normal shaft for recycling into the process.

“It is quite possible to use this technique in other large mines and we have been introducing the idea to other mining companies”, says Eric. “The conditions in each mine are very different, so a Minevac in one mine will probably differ a lot from another one.”

**Railcare’s contribution**

The LKAB Minevac was built by DISAB in Eslöv, and then transported in parts and rebuilt on site. Railcare’s contribution was to demonstrate it in its working environment and show operatives how to use the machine during the project start-up in 2011.

“Some details still remain to be fully resolved, but so far the customer is very satisfied with the machine that’s running in the mine. I also have to say that you feel quite proud to be a part of a big industrial project like this one!”

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**FACTS TRACKS JÖRN-ARVIDSJÄUR**

**Length:** 75 km

**Bridges:** 12

**Traffic:** None since 1990

**Speed:** 50 km/h presently, high-speed after refurbishment.

**Planned measures:**

Circulation tracks at both ends, track up-date in order to cope with higher axle load, high-speed stretch, electrification.
Tidy tracks in Skövde

The early winter in 2012 put an end to the Railcare assignment to handle excess ballast loads in connection with track refurbishment in Skövde, Sweden. The end phase, around one fourth of the job, was instead completed during 2013.

The assignment included handling of excess ballast and lowering of cables. The Railvac and the VBU machine were both used to handle the left-over ballast and perform the cable work at the tracks between Herrljunga-Skövde-Töreboda. The assignment took a total of three weeks, including some weekends when there was no traffic, making it possible to work in multiple shifts.

In November Railcare also got an extra assignment on the stretch from Floby to Vårgårda. The customer was Infranord in cooperation with Trafikverket, the Swedish Transport Administration.
Prize to Railcare

Railcare was the regional winner of ‘Årets lyft 2013’, a competition where the Cargo Transport Board appoints the best, most intelligent and sustainable transport solutions. Ulf Marklund, CEO at Railcare, received the prize from Margareta Andersson, the regional governor of Västerbotten, and chairperson of the

Half the crew approved drives

The Swedish Transport Board has approved 14 Railcare employees to be on-track plant drivers. This means that around half the Railcare operator crew is now qualified to operate the vehicles used in connection with maintenance assignments.

“Our goal was to get everyone approved and while everybody has completed the training, it was quite tough and not all of them passed the tests”, says Jonny Granlund, operational manager Entrepreneur at Railcare. “We have now redesigned the work teams in order to get approved drivers on all shifts.” Jonny estimates that four new drivers will be approved during 2014.

He also states that the demands on new operators will increase, and they have to pass the new tests in order to remain eligible.

New office in Stockholm

Railcare has moved from Södertälje to central Stockholm. The new office is situated close to the Stockholm Central Station, very convenient for both customers and Railcare personnel. This goes for both those who work there and for temporary visitors that can meet up with customers, or work there while waiting for connecting trains or flights.

“This is much more effective, it used to take almost half a day to go to and from the office in Södertälje,” says Ulf Marklund, who often makes the journey from Skelleftehamn to Stockholm to work there.

The premises, found on internet (!), has five office spaces, lunch and conference room.

New concept customers for Atumo

The number of concept customers (total customers) has increased for the railway engineer company Atumo (partly owned by Railcare). Among these are Boliden and the Swedish Post, organisations that have also increased their commitment during 2013. MD Michael Marklund also states that more new customers are to be added during 2014.

Two new machines to USA

Two new Railvac machines, nos. 14 and 15, have been delivered to Loram Maintenance of Way in the USA by DISAB Group. The new machines will be part of the company’s fleet for railway refurbishment in USA. The Railvac technology is also firmly established in Russia with around 15 machines operating there.

Happy and approved! Robin Granlund is now qualified transport on-track plant driver.

Per Nilsson at his home base, the new Railcare office in Stockholm.

... from Margareta Andersson, the regional governor of Västerbotten.

Cargo Transport Board North. The reason was the development of the large snow machine SR 700 and it will soon be revealed if Railcare will also be the national finals winner.

IN SHORT
Three T record year

All of the different activities within the Three T operations went full speed ahead during 2013, resulting in a turnover record. This includes:

- A brilliant year for the rental activities, especially locos.
- An equally good year with lots of demand for loco drivers.
- A fantastic year for the maintenance workshop in Långsele.

During the summer months in particular, there was a great demand for locos and drivers, and planning manager Lars Filipsson and his co-workers were kept very busy trying to meet the demand.

“There are two main reasons for our success”, says Daniel Öholm, vice CEO at Railcare and Three T manager. “There were many on-going track refurbishment projects that needed the support of locos and loco drivers, and we also feel that we now are firmly established on the market. The contractors are now much more familiar with our offer and what we can accomplish.

Everybody onboard

He also gives praise to all the loco drivers involved and the administrative personnel that put in all the extra effort, working hard during the time of year when most people like to go on holiday.

Larger workshop

Three T also increased the workshop area with a new storage space. This improves the opportunities for taking on several projects at the same time, as a total of 14 locos can be hosted in the workshop. The storage contains a new supply of standard parts.

“Having access to standard parts directly makes it possible to further reduce our delivery time”, says Lars Filipsson.

Modernization of vehicles

Apart from emergency and planned service of locos and wagons, Three T also offers modernization projects such as installation of radio control and safety systems. Re-painting is also undertaken, something that extends older vehicles lifetimes. The very busy summer period was followed by a slower pace, but still at a nice occupancy rate for Three T. Railcare’s expanded fleet for snow removal units contributed to this, as some of Three T’s locos are used for transporting them.

...but slower for Lining

“I really do hope there isn’t be a serious accident in order to make the need happen for railway culvert repair.” Roland Lindberg, Manager for the Railcare drainage culvert repair concept, is concerned. “Unfortunately the problem is usually postponed when there are other maintenance activities to be prioritized.”

2013 was a rather slow year for Lining with less work than expected in Sweden. A few lining jobs were performed in Norway, and Roland expects more to follow.

“This is why we have also established a cooperation agreement with Snøhetta Anlegg DA, a machine entrepreneur in Norway with lots of experience in railway maintenance projects.”

Refurbishment in Norway

During the autumn four drainage culvert repairs were performed in Norway. “There are both advantages and disadvantages. It is easier to work with closed tracks but on the other hand the terrain is very difficult – you might need both rope and harnesses for the steep slopes where the railway meanders along!”

Ordinary road drainage culverts

Another line of Lining’s business is the refurbishment of road drainage culverts. A few road culvert works have been done before, and according to Roland there’s a lot of potential in this sector.

“There is a clear need and the advantages using our fast method are great, as you don’t need to close to road for a long time, avoiding major traffic hold-ups.”

Flooding

What are the consequences of insufficient drainage caused by blocked drainage culverts?

“Well, one example is from Knivsta, south of Uppsala, where 200m of railway track were completely flooded. In this case the problem was the drainage culvert’s location, away from the lowest point. We could have fixed this by creating a completely new culvert.”

Minister adds silver lining to premier show

It was certainly a bit chilly. But by the fireside close to the Railcare tent it felt nice and warm and there was a great smell of coffee being made. The premiere of Railcare’s latest snow removal machines was a great success, including ribbon-cutting and test driving of the new snow plough SR 200 by Swedish infrastructural minister Catharina Elmsäter-Svärd.

Continues on the following pages >
Swedish infrastructure minister Catharina Elmsäter-Svärd test drove the new snow plough on a grey but snow free day in Stockholm. As it happened there was no snow on this Thursday in November but the visitors were clearly aware of the problems a snow blizzard can cause in the Stockholm region. Here they could examine what the Swedish Transport Administration and Railcare can mobilize when needed:
• SR 700: the second edition of the large snow smelter. Enhanced on many accounts and now equipped with a brush that can be lifted and lowered in order to clean platforms edges.
• SR 200: the main attraction of the day, a snow plough with a plough function at both ends.
• SR 300: the smaller snow melter, now expanded with snow fan units at both ends. The machine length is now 76 metres long and can be used for snow removal in both directions (not simultaneously) without being turned. With proper planning the SR 300 can remove snow from 50-60 switch and crossings during a midweek nightshift.
“The snow plough is smooth, simple and ingenious. You almost wonder why it hasn’t been developed earlier”. The project to develop it has been very fast; a year ago it was the SR 700 that was the main attraction. “It will be exciting to see what the Swedish Transport Administration and Railcare can introduce next year.” Swedish infrastructure minister Catharina Elmsäter-Svärd also revealed that there are other ongoing development railway projects, but not as obvious and easy to understand as this one.

“We sometimes meet our customers at their premises but we seldom meet at a train depot...” Jan Burell and Johan Eliasson from Danske Bank were impressed by the consensus between Railcare and the Swedish Transport Administration on ways to attack the snow. “This is a win-win situation where commercial aspects are fully accounted for.”

Catharina Elmsäter-Svärd didn’t mind cutting the black and yellow ribbon (sewn together by Railcare’s CEO Ulf Marklund and celebrating the regional ice hockey team). “I cheer for the team Enhörna that also use black and yellow as their colours!”

Mille Overaasen from Overaasen AS in Norway came to inspect how their brush equipment has been adapted on the new SR 700. “We have made some construction modifications, mainly in order to make the machine more operator-friendly and easier to maintain”, she said.

“I am pleasantly surprised”, said Andreas Bronieus at Marginalen Bank. “I am about to start working with Railcare credits and this was a perfect introduction for me to see how the money is spent.”
Finally: a complete break-through in the UK!

In the beginning of 2013 it looked really promising: this would be the year for a total Railcare break-through in the UK. And what a break-through it turned out to be. The first machine RAUK1 (especially adapted for the UK network) is fully booked, and yet another machine will arrive on the market in early 2014. This machine is also on a long-term lease with Network Rail.

“From a five year perspective we count on having a total of six machines in the UK. Our primary goal is now to promote all the advantages of the Railcare methods even harder”, says Håkan Johansson, managing director at Railcare Export.

Machine 1
The RAUK-1 machine is booked by Network Rail on a long-term lease until 2019. It will be used for switch and crossing re-ballasting, a part of the CP5 package that comprises a comprehensive plan to enhance the rail maintenance and ride standards, in this case on the London North Eastern railway route.

Machine 2
RAUK-2, delivered in spring 2014, will operate on the Wessex alliance, a line with very heavy traffic going due south from Waterloo station in London, and all the way to the south west to Cornwall. This is a successful assignment that has now been extended with a further year of work. In this case wetbeds, a problem that affects track stability, will be fixed.

These two methods are the ones that have to date been the most appreciated in the UK. But Håkan reckons that ballast exchange on bridges, in tunnels and next to platforms along with cable installation work of different kinds are other jobs that can be performed very effectively using Railcare Railvac machines.

Greater efficiency
“Intense train traffic and cramped space around the track make these jobs very time-consuming to perform using traditional approaches and technologies. Done the Railcare way, the job can be completed in perhaps a tenth of the time!”

It sounds almost too good to be true, but it takes time for those in the UK’s rail industry to adapt the new ideas. Another challenge is the major degree of personnel re-structuring and mobility in the railway industry where the Railcare believers move on to new positions, making it time-consuming for Railcare to start all over again with new people.

Navvies from Sweden
The Railcare operatives are also in evidence at Railcare in the UK. Each machine and work shift demands four operators, so Swedish railway navvies are now commuting to the UK. This crew will now need to be twice as big when the second machine comes into operation.

“This is a huge challenge and we’re work closely with Railcare AB to make sure we get good crews, mixing experienced and new operators to fulfil our goals of being independent and energetic.”
**New office in Derby**

Railcare has established a new office in Derby in the Midlands.

Håkan Johansson, managing director at Railcare Export, and project manager Steve Mugglestone will use the office as a starting point for Railcare’s activities in the UK market. During 2014 the staff will be complemented by administrative personnel. “It feels very nice, but most of all it is really appreciated by our customers when they realize that we, with our own office, are firmly established here,” says Håkan Johansson.

“Full speed ahead” – during 2013 Railcare got a big breakthrough in the UK. Two machines are now fully booked, one of them until 2019.

**Systematic safety work**

The safety and environmental work is now carried out in an even more systematic way within the Railcare Group. The safety committee consists of Sven-Gunnar Krave, safety manager, Ulf Lindh, responsible for labour safety and Robin Granlund, together with Kristoffer Krave.

The committee looks at all kinds of working conditions concerning the different machines. There will also be an up-date regarding all Railcare machines’ environmental revisions.

**Railcare stood out at iaf/VDEI**

Railway machines worth some 5 billion SEK were exhibited at last year’s iaf/VDEI trade show in Münster, Germany, at the end of May. Railcare – in this context a very small player – got a lot of attention for its snow removal concept, showing the big snow smelter SR 700 in cooperation with the development partner the Swedish Transport Administration.

“Most of the technology shown on the trade fair was well-known. We arrived with a completely new machine and received lots of attention”, says Daniel Öholm vice MD at Railcare.

The iaf/VDEI fair is predominantly a tradeshow for railway infrastructure and maintenance, and this time 207 exhibitors from 21 countries attended. While the visitors were mostly European, several came from other parts of the world.

**Exhibition container**

Railcare also stood out with their own, completely new and very practical exhibition concept: a purpose built container that not only represents the actual stand with all interior equipment, but also serves as a shipping container for exhibition material, brochures and other collateral. This container was taken by rail to the fair in Germany.

**Snow at Nordic Rail**

The exhibition container was also used later in 2013 at the Swedish railway exhibition in Jönköping. This was the exhibition’s tenth anniversary and Railcare has been exhibiting almost every year. As elsewhere, the snow machines were also the main event in Jönköping and the Swedish Transport Administration and Railcare held a press conference in order to introduce the new machine SR 200.

“Nordic Rail is always a good opportunity for us to meet customers and suppliers within a few days,” says Daniel.

**IN SHORT**

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Lowering of cables against a ticking clock. An impossible assignment without the new app, designed by Railcare.
The new app saved the cable lowering work

A relatively ordinary cable lowering job turned out to be a true ‘mission impossible’ because of an extremely tight time schedule. So Railcare acted like Tom Cruise would have done, making the impossible possible. And like Tom the latest technology was used.

“This was the best, and at the same time, worst premiere for our newly developed app”, says Adam Sunding, supervisor at Railcare.

The cable lowering work at the 80 km long stretch from Långsele to Anundsjö was started last year and will be completed in the autumn. Due to different reasons the go-ahead decision was late and after the final order to go ahead was given on a Thursday, Railcare was on site the following Monday.

“The time just flew past, but our customer the Swedish Transport Administration was of course aware of what this meant for the actual job,” says Kalle Olsson, production manager at Infranord.

Hunted by track renewal train

This was a struggle against a ticking clock in order to both get the job done and stay clear of the track renewal train that followed close by. At its most intense, five Railvac machines were on site with Infranord’s high output machines only 600 meters behind.

“This wouldn’t have been possible without our new app”, says Adam. “Initially the first machine makes trial holes along the stretch and the results are posted in the app. My colleague Lorentz Rydén and I can then follow the work in real time and post lowering orders for the following machines, making it possible for them to start directly and give feedback. Everybody is updated on all activities via their iPads, and of course it’s also stored for quality and documentation.”

Better control

The control and planning work, until now mostly done by pen and paper via direct communication, became much more efficient. The best Railcare achieved was cable lowering on one km of track in one day.

“I was really impressed by the efficiency of the new app,” says Kalle Olsson.

It was so effective that Railcare had some spare time to prepare this year’s work at Aspeå - Anundsjö.

Planning and control much easier when everybody has access to the same information at the same time.

“I will also commend Kalle who acted calmly and methodically despite the very tight schedule”, says Adam.

“I estimate that things will be a little less tight during the coming work” says Kalle.

Fotnot: The new app, developed by Railcare, consists of two main modules: one for cable lowering work and one for machine malfunction reports. A work log book module is also being developed, and new modules may be added later on.
“Using the Railcare method we attack the root of the problem”

“This is an amazing method to get rid of vegetation and weeds at a reasonable cost. Using traditional methods with machines and manual work is like swimming on dry land in comparison!”

Leif Oscarsson is rail manager in the Swedish Transport Administration, region Mitt, and he hired Railcare for some very successful vegetation removal at two of the stations under his control.

“It looked really bad, but we were also contacted by the train operator Green Cargo who pointed out all the potential working environment risks, especially in connection with shunting,” says Leif.

“I got in touch with Jonny Granlund at Railcare and together we designed a suitable concept.”

To begin with the removal of vegetation and weeds was done at the Ragunda station depot. For the next project in Bispgården Leif also invited his co-workers and Green Cargo representatives and carried out a demo in cooperation with Railcare.

More stations to come

“I really hope we will be able to perform vegetation removal on three or four stations in my region during 2014, and to continue to do some new ones each year following.

Using the Railcare method ensures a complete clean-up and the result lasts eighteen years. The cost, around 500 - 600 SEK per track meter, is quite reasonable and well spent. In addition it also looks much nicer for everybody that is in, or close to, the track environment.”

This is how it is done

The Railcare vacuum machine sucks up all vegetation and weeds to the roots, and removes the top ballast layer down to the lower edge of the sleeper. Gravel and waste is also removed. New ballast is then refilled from the companioning ballast wagon. Vegetation removal and re-ballasting at the two station depots in Ragunda and Bispgården was each delivered in 2-3 days.

Advantages

• The vegetation is removed to its roots, reducing the risk of new vegetation.
• Risk of slippery tracks due to vegetation on the track is eliminated.
• Drainage around the track is enhanced, prolonging the track’s life-time
• The method does not affect the track’s position and will not harm buried cables.

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Before: Small bushes and other vegetation make the track environment unsafe – it almost looks like the track is disused…

After: Cleaned down to the roots. Fresh ballast has replaced the old material. The track will now stay the same for eight-ten years before the weeds return.

Russian interest in snow machines

The Railcare snow machine range is of huge interest in several countries affected by harsh winter climates. The railway businesses in Finland, the Baltic states and of course in Russia have all declared their interest in the Railcare snow removal technology. During the last year representatives from Finland, USA and the Russian Railways visited Railcare in order to learn more about our unique technology.