Minister at the controls

The Swedish Infrastructure Minister Catharina Elmsäter-Svārd test drove Railcare’s snow removal machine during a working site visit in February and wrote the following tweet:

C. Elmsäter-Svārd @elmsatersvard
Railcare has developed good snow removal for railway tracks together with Swedish Transport Administration. Effective, smart and good. Important on e.g. depots.
2013-02-06 10:54
Let’s get it together

The wintertime is usually a more tranquil period for Railcare Group. Not this year. A more normal Swedish winter with lots of snow made it possible to really test and evaluate our snow removal machines. And they really lived up to the expectations! Many customers and others are telling us how valuable the machines are and the stops and delays that were avoided.

We are now aiming for a more active - but still humble - approach. We won't sit around and wait for people to understand how smart our solutions are. We will tell everyone interested about it. One example is the Infrastructure Minister (see the first page). We also make extra investments in two major exhibitions during 2013. We go “all in” and bring the new big SR 700 machine to Münster in Germany. This is the place for the only and major railway maintenance exhibition in Europe.

We have dealt with several major issues, demanding but inspiring. One of them is the nice development in UK, where we anticipate a real break-through. In the long run I anticipate that the activities there will at least correspond to the one in Sweden. A great challenge for us, e.g. to be able to recruit several new employees that will commute to the UK. We have decided that all operators shall be Swedish in addition to the British project personnel.

2013 will be a really exciting year in many ways and we will take many new, big steps forward, expanding in all our core businesses. Follow us on www.railcare.se - the website that also will be improved with modern layout and technology this year.

Ulf Marklund, MD and CEO
Railcare Group
So it finally snowed – the snow really poured down over central Sweden in the beginning of December. The Railcare snow removal machines were put to the ultimate test. The biggest SR 700 machine – launched last year – was positioned in Hallsberg where it was very useful. The smaller machine, SR 300, became a successful workhorse in the Stockholm area.

“It has worked out really well and the machine’s efficiency has meant a lot in order to keep the train traffic running”, says Tony Persson, at the Swedish Transport Administration.

SR 300 has been used for removal of snow keeping a line between Älvsjö and Karlberg cleared. Every night after snowfall, the Railcare team consisting of three persons, has cleared between 25 and 45 switches and crossings. Each track crossing takes about 3.5 minutes to clear with the SR 300 compared to the 1-1.5 hours needed for manual snow removal!

“It is also very advantageous that the SR 300 clears the entire crossing area, improving the accessibility also before and after the track crossing”, says Tony Persson.

Snow in December
The worst snowfall came on the 5th and 6th of December in the Stockholm area, causing lots of traffic problems. “I am convinced that the problems have been worse and harder to fix without...”
the SR 300 in place”, says Tony Persson. “The tracks around Stockholm Central station are also very vital for the traffic in all of Sweden while there are many trains passing on their way to other destinations in the country. Stops in Stockholm affect the traffic everywhere.”

Using the Railcare snow removal machines the Swedish Transport Administration has been better equipped in order to cope with heavy snowfall than before.

**Evaluation and improvement**

“We will of course evaluate this year’s snow removal and keep trying to come up with new ideas in order to improve further. Railcare is a very valuable partner in these efforts; they are open to new ideas and contribute. The cooperation between our operative personnel and Railcare’s team has also been very good. This is important for the overall efficiency.”

This is how SR 300 snow removal works

At 3.30 pm the night’s work is planned by ROL (Regional Operative Leader) who consult with the Railcare operative leader.

The most important switches and crossings (among 1 400 switches and crossings in Stockholm) are prioritised.

SR 300 starts to work along a specified line. The train traffic is then resumed in the same direction.

Ice that falls from the train sets onto the track is removed by the smallest Railcare SR 100 and a team of 3-4 persons.

Halfway along the work shift the SR 300 is turned and the line is cleared in the opposite direction. The track is then open for traffic in both directions.
Timber wagons are being modified for long-time lease to Boliden

Boliden Mineral AB is renting 20 container wagons and a T45 engine from Railcare Tåg AB and Three T to be used on the smelter Rönnskärsvärken. The deal is valid five + one year, starting in spring 2013.

The wagons, originally built for transport of steel, have been used for transportation of timber. Now they are modified for container transport of electronic scrap.

“We have an extensive fleet of wagons”, tells Hans Flodmark, manager at Railcare Tåg. “Parts of this fleet is available for short- or long-term lease and we can also modify them to other uses. We also take care of the certification of the rebuilt wagons.”

Interesting fact: If all Railcare wagons are put in a row they form an around 3 kilometer set.

Jesper Andersson is one of them who work with the modification of the timber wagons to container wagons at Railcare’s workshop in Skelleftehamn.

WAGON FLEET

<table>
<thead>
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<th>Wagon Type</th>
<th>Number</th>
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<tr>
<td>4 axis container wagons</td>
<td>50 st</td>
</tr>
<tr>
<td>2 axis flatbed wagons</td>
<td>40 st</td>
</tr>
<tr>
<td>8 axis timber wagons</td>
<td>10 st</td>
</tr>
<tr>
<td>4 axis timber wagons</td>
<td>25 st</td>
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<tr>
<td>2 axis timber wagons</td>
<td>12 st</td>
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Several of the timber wagons can be converted for other uses like container, flatbed, coils, etc.
Tonnes of cables at large job for Structon/Railcare

A total of 38 km track from Storvik to Morshyttan was updated during the summer of 2012.

This was one of Structon Rails’ largest Swedish projects and they hired Railcare as their subcontractor for the cable management. This was also one of Railcare’s bigger projects and no less than 26 operators participated and five vacuum suction machines were used.

“The Railcare metod for the cable handling is the most effective and this was very useful in this case where a lot o cables and cable troughings was involved”, says Thomas Carlsson, site manager at Strukton.

The track between Storvik and Morshyttan is a single track that meant that the traffic had to be stopped completely during the work. Contrary to ordinary measures the freight traffic was prioritized in this case and the Strukton and Railcare teams were allowed to work during ordinary “business hours.”

From 9.30 am to 4.50 am the entire stretch was “invaded” by up to 40 teams from Strukton and Railcare at the same time – an enormous task to control the logistics and the security measures and make sure that everybody was at the right place at the right time.

Security measures

“Our security manager takes over the responsibilities from the traffic control and manages until the track was handed back”, says Thomas. “It is a very heavy responsibility and the safety is of the essence. In this case it was very beneficial to be able to work during the day.”

Railcare's task was to perform cable management work at each part of the track before re-ballasting and exchange of switches and crossings works by Strukton. At four depots different cable under track crossings (UTXs) and throughings where installed.

Fast decisions on site

“Only in connection to this there were a few hiccups, but noting that reefer to Railcare. Unfortunatly you cannot really tell what you will find before you start to dig… We had to make som fast decisions on site.”

On the 20th of August everything was done – as planned – and ready for hand back inspection.

An achievement

“I must say, it was an achievement to be able to keep the time table, bearing in mind the scale of the project,” says Thomas Carlsson. “Railcare also performed really well and most likely they will be part on future projects too.”

“We are also really pleased with the cooperation with Strukton,” says Jonny Grandlund, manager at Railcare. “This shows that we have the capacity to take on the really big jobs, too.”
Enhanced safety and quality when operators become engine drivers

The Railcare RailVac air/vacuum excavation machines have been upgraded to On Track Vehicles. This means that all operators that drive the set with the vacuum machine are locomotive drivers. In the railway world this causes an upgrade of quality and safety and also that all operators have to attend locomotive drivers training courses for six-eight weeks.

“This is a tough course and not all will pass”, tells Jonny Granlund, manager at Railcare.

They are new works managers

Lorentz Rydén and Adam Sundin are appointed as Works Managers at Railcare. They are two very experienced machine operators that will serve as Works Managers on Railcare working sites. This is an improvement of the Railcare management and there will always be someone on site that can answer questions and make the necessary decisions, close to the customer, regardless of hour of the day.

The very large individual overall responsibilities and authority for each Railcare operator is not affected.
In the rail maintenance business, a particular set of points at Ladbroke Grove (8057) affecting lines 2 and 3 one mile outside of Paddington Station had become something of a ‘cause célèbre’ due to an engineering measuring error. All traditional approaches were explored and rejected in attempts to resolve what was essentially a simple problem – reduce the height by 125 millimetres. Dealing with the excessive height was the easy bit. The hard bit was a) getting access, as it was virtually impossible for road/rail-based equipment, and b) the lengthy possession times needed to complete the task by traditional methods. Making all this happen on one of the busiest mainlines in the UK simply proved that traditional solutions just wouldn’t work. Failure to square this particular circle had resulted in the set and its crossover remaining inoperable for some 18 months, with the consequent re-writing of train paths, much to the annoyance of the Train Operating Companies (TOCs).

Searching for solutions – the Doncaster demo
Karl Gilmore, the project manager at AmeyColas, had heard about a new fast and infrastructure-friendly way of excavating track ballast. Having seen the Railcare AB videos (www.railcare.se and www.railcareexport.com), Karl was determined to see the RailVac for himself, so a live demonstration was arranged for both Karl and a colleague at the Curtain Lane level crossing site in Doncaster.

Despite a foot of snow and freezing temperatures, the Bridgeway Railcare team and the RailVac were ready and waiting to go into action as scheduled and Karl was deeply impressed by the Railcare team’s ‘can do’ and very positive attitude: “Bridgeway Railcare ticks all the necessary boxes when...
it comes to providing rail maintenance solutions and maximising possession times.” After another site visit at Micheldever, Karl said “I’ve seen nothing like the RailVac for speed, capacity and power.”

The big night arrives
A 27 hour time duration was arranged for a weekend possession, and the RailVac was hauled to the North Pole Eurostar depot nearby, so that the time available could be maximised. Observed by a large number of senior executives from AmeyColas, Network Rail and CrossRail, the RailVac excavated 80mtrs on line 3 and 50mtrs on line 2 were excavated to the required depth in 6hrs versus the planned 7.5hrs. Then the track was dropped back into the correct position, checked and cleared for normal speed.

Closing thoughts on the RailVac
When he saw it in action at Doncaster and then Micheldever, AmeyColas’s Karl Gilmore knew the RailVac was the kind of ground-breaking engineering innovation and solution the Ladbroke Grove project had demanded: “That night at Ladbroke Grove showed a lot of people what this kind of advanced technology can do for the UK rail network’s maintenance.

“I think a lot of minds were changed that night,” Karl continued, “and the ‘can do’ attitude of the Bridgeway Railcare team inspired me from start to finish, from that freezing night in Doncaster right up to the night at Ladbroke Grove. The RailVac is the revolutionary kind of technological advance for which the UK rail maintenance industry has long been waiting.”

Facts Ladbroke Grove
Ladbroke Grove, a few kilometers from the Paddington station in London, is a name that the British always remember as the site of one of the most severe train accidents in modern days. In 1995 a train ignored a warning signal, passed it and collided with another train. 31 persons were killed and 525 were injured. The accident caused a debate regarding the railway safety in connection to the privatization that was introduced in 1994.
Railcare aims for reduced diesel consumption

The Swedish Transport Administration and Railcare have agreed on using the fuel additive EuroAd in the snow removal vehicles used at Stockholm Central station.

“We estimate that the consumption will be lowered by seven-ten percent, the emissions will be reduced and the fuel costs lowered,” says Jonny Granlund, manager at Railcare.

Interesting test
“We consider this to be an interesting test and hope that Railcare will show good effect”, says Yngve Handspik, coordinator at Swedish Transport Administration.

His colleague Ann Wikström, one of the environmental experts at Swedish Transport Administration has revised the additive EuroAd and has nothing to object to the fluid itself.

Environmentally friendly alternatives
“I would like to see evidence of the effects we are hoping to achieve and it will be very exciting to follow up this. The Swedish Transport Administration poses very clear overall environmental demands, but there are no specific demands when it comes to our subcontractors’ fuels. Of course we are very positive towards those who deal with the issues and choose environmentally friendly alternatives. They will be the winners in the long run.”

Railcare is continuously looking for alternatives but has so far not been able to find something that can replace diesel.

Hard to replace diesel
“Electricity is no alternative for us while our machines often operate on tracks without electricity”, says Jonny. “Different kinds of bio fuels are hard to use while they are not that accessible.”

In the field the EuroAd will be added in connection with refueling of the Railcare machines using computerized pump.

“We will follow the results carefully and get back with reports and results later on,” says Jonny.

FACTS EUROAD

It is a vegetable additive, a catalyst for all kinds of liquid fuels. EuroAd contains nothing poisonous and is fully degradable. It works like some kind of cleanser in the engine that reduces soot clogging and enhances the combustions.

EuroAd gives three main effects
• Reduced fuel consumption, 7-10%
• Less soot in the engine
• Reduced emission

EuroAd is developed and manufactured in Canada. It is marketed by EDS, Emission Particle Solutions, in Sweden. The product is tested by Swedac approved Analytica and it is EPA registered in the USA.
The VBU an obvious choice for handling of shoulder ballast

The Railcare VBU machine is usually used for removing unwanted and excess shoulder ballast as a preparation before re-ballasting and/or track renewal. Last year it was instead used afterwards, on the route from Falköping to Skövde and then from Skövde to Väring. The track renewal was already made and Railcare got the assignment to load and transport away the excess ballast and spoil that was left on the shoulder.

Totally 16,000 cubic meters of ballast was handled, including around one fourth that remains during 2013. The project is a partnering project between Swedish Transport Administration and Infranord that hired Railcare for the job while the VBU was considered to be the only possible alternative. Railcare has previously performed cable management work on the same route.

Three grades
Marcus Kilmo at Inhousetech Project is hired as contracting manager by Swedish Transport Administration. He tells that the ballast was graded in three different classes, red masses (for treatment/reuse/destruction), gray masses (cover masses on dump) and the rest that has been redistributed along the track. A very thorough investigation was made in order to classify the masses.

Polluted ballast
“Older ballast is often polluted, especially by wooden sleepers impregnated by creosote,” Says Marcus Kilmo. “Today we are very aware of the risks involved and handle them carefully, even though the content is in no way alarming.”

The Railcare VBU coped with around 400 cubic meters ballast each shift (on closed off track). This means that ballast equivalent to around 2000 truckloads has been picked up and removed by the VBU!

“Despite quite short time for planning the job it has been carried out very well,” says Per Nilsson, team leader at Railcare. “One of the factors is the good job done by the traffic control.”

Smooth cooperation
“The cooperation with Railcare has been really smooth,” says Marcus Kilmo.

The harsh Swedish winter with lots of snow stopped the job by the end of 2012 and it will be finished during spring 2013.

Large amounts of ballast are handled by the Railcare VBU on the track from Falköping to Väring.
Railcare in the UK looking forward to the best year ever

“The new RailVac air/vacuum excavation machine RA7, especially designed for the UK market, has really opened all doors. Now the customers come to us, we don’t have to travel around and knock on doors”, says Steve Mugglestone at Bridgeway Railcare LLP. “Everybody is talking about us now and I receive inquiries from both known and unknown Network Rail contacts!”

Steve calculates that the machine will be fully booked for weekend jobs from March and onwards. Also one of the main selling points – to be able to perform fast and efficient jobs during weeknights – has hit its target and the machine is also booked for such jobs. To perform maintenance work also during mid-week nights (the 7 day railway) is a national ambition in order to combine a minimum of traffic delays with an overall railway upgrade.

The interest and bookings are spread across the country and the customers also use the machine’s versatility for different tasks such as under track crossings (UTX), different signal cables works, drainage, switch and crossing re-ballasting as well as track enhancements.

More machines?
“We will probably need to increase our capacity”, says Steve. “There are ten railway routes in the UK and I think that there will be at least one needed in every region in the future. Along with new machines we will also need to expand with more personnel, especially project leaders.”

Maintenance and renewal
Bookings and quotations in the UK mostly consider maintenance with a five–ten years horizon, something that suits the RA 7 perfectly. But interest from all leading companies working with more extensive railway renewal/new projects is also very intense.

“This is really, really satisfying and it feels like we finally is rewarded for all the hard work during the last years. Railcare is now firmly established in the UK and we are here to stay!”
Atumo offers railway vehicle services

Atumo, the partly owned railway consultancy, is during 2013 putting extra effort into the development of railway vehicle services. Railway vehicles include engines, wagons and service vehicles and the services include e.g. permits, risk analysis, project leading, independent examiners and documentation. Another example is that Atumo has specialized in test driving decisions with the Swedish Transport Administration as customer.

"Both new and renovated engines and wagons need to be tested in order to be approved for traffic on the Swedish railway net", tells Michael Marklund, MD at Atumo. "We are now increasing our capacity to meet the customer demands and we foresee great possibilities to expand within this sector."

As a part of these efforts Atumo, for the first time, will have an own stand at the Nordic Rail exhibition in Jönköping coming autumn.

Giant culvert repair in Kiruna

Last winter a culvert repair was performed by Railcare in Kiruna. It was a very big combined road and railway culvert of concrete, 90 m long and 1800 mm in diameter. Because of the length the glass fiber reinforcement had to be divided into three pieces, each weighing almost four tons. The end result was reportedly very successful.

Isak Nilsson, Boliden Rönnskär, and Thomas Brunnberg, Atumo, is a team when it comes to railway issues for the large industrial complex. Last year the cooperation was intensified and Boliden Rönnskär is now one of Atumo’s concept customers.

Atumo – Boliden Rönnskär’s railway support

Isak Nilsson, manager Manager Supply & Transport Department at Boliden Rönnskär in Skelleftehamn is very satisfied with the cooperation that started in 2012 when he signed the concept customer agreement with Atumo.

“Now we take it further and intensifies the cooperation, during 2013 we will for example build new level crossing gates to enhance the safety even more at the industry.”

The railway traffic at Rönnskär is increasing. Different kinds of complex material like ore concentrates and electronic scrap is processed into different metals. The material is also transported away from the smelter, mostly copper.

Engine drivers and loading/unloading

At the Rönnskär compound Boliden’s own personnel is in charge of the railway transports. A total of 11 engine drivers and other personnel are involved for loading and unloading of around 1200 wagons each month.

With the aid of Atumo they have now received updated education, which will continue regularly.

Many tasks

Besides education also documentation, instructions, routines, risk analysis, internal revisions and making sure that Rönnskär complies with existing laws and regulations, also is included in the Atumo assignment. When it comes to the new level crossing gates Atumo will act as project leader.

“Besides the education efforts Isak and I meet every second month”, says Thomas Brunnberg at Atumo. “We also get in touch by phone almost every week and as Boliden is a prioritized customer they are swiftly getting aided by me or my coworkers. I feel that Boliden has made a very thorough job in identifying the areas where they need extra competence and on my behalf it is very inspiring to get to know the entire operation more closely than I do when I make more occasional efforts.

Important part of the operation

“Yes, Atumo is an esteemed cooperative partner”, says Isak. “Even though the railway is a small part of the overall operation on a metal smelter, it is very vital in order to keep the material in the right place at the right time.”
Almost too good to be true – must be seen! An old slogan that really is true when it comes to Railcare’s lining concept for railway culvert renovation.

“Only when you have seen the operation and the end result you are really able to understand all the benefits”, says Roland Lindberg, manager for culvert repairs at Railcare. “This is why we have developed a mini rig for fast and easy demonstrations.”

Much appreciated demo in Wirksworth

In connection with the delivery of the very first bespoke RailVac excavation machine for the UK market Railcare Bridgeway LLP arranged a demonstration in Wirksworth, halfway between Birmingham and Leeds. The visitors, some 30 potential customers, got both a vacuum technology demonstration and the possibility to see a railway culvert repair.

The demonstration was held on a museum railway, making it easy to use the track compared to a track with heavy traffic. After an initial session where the RailVac excavation machine was demonstrated on the depot, the visitors were transported by train to the culvert re-lining site. There the Railcare team had prepared the site by cleaning out the culvert that was to be refurbished with the flexible lining. Next to the culvert a wooden rail was torn down and the vegetation at the in- and outlet was cleared out.

Brick culvert

“Also the culvert was almost a museum piece,” tells Roland Lindberg, manager culvert repairs at Railcare. “Like so many culverts in the UK this was a brick culvert. Beautiful and well-built by hand but...”

Simplified lining demo

with new miniature rig

Almost too good to be true – must be seen! An old slogan that really is true when it comes to Railcare’s lining concept for railway culvert renovation.

Railcare performed an appreciated demonstration in beautiful British countryside setting.

Railcare’s new mini rig can be transported in an ordinary car for swift demonstration on customer sites.
For several years Railcare has preformed lining demonstrations, both in Sweden and abroad. Demos in true setting are quite extensive projects that need an appropriate culvert and lots of surrounding administration. Then you also have to transport all the attendees to the site.

**Half an hour demo**

Using the new mini rig the entire equipment can be loaded and transported in a ordinary car and the method can be demonstrated e.g. on the parking lot next to the customer’s office. A demonstration, inflation of the glass fiber lining and hardening with UV light, takes about 30 minutes. The demo culvert shape is square to show that the lining will adapt to any culvert shape.

As a memory from the demo the demo culvert is made into an umbrella stand as a gift to the customer – a decorative piece for any office entrance!

“We have already carried out a few demos using our new equipment and it has been very appreciated”, says Roland. “Please get in touch if you or your company wants an own demonstration.”

after some 100 years or so the material is starting to erode and the construction is weakened."

The culvert had the shape of a roman arch, making it possible for the visitors to see how the lining adapted itself to the original shape.

The task also included the tearing down of a wooden rail and cleaning out the culvert in- and outtake.

Some 30 potential customers were impressed by the technology and the culvert repair speed.

The renovated culvert was quite old.
Healthy spare time
Mechanized snow clearance Railcare style is not associated with the physical strain that you would think of back home. On the contrary – it can be periods where the Railcare snow clearance operators are sitting quite still. This is why Railcare has a new deal with workout company Friskis & Svettis in Stockholm, where the operators can spend as much free time as they want.

“Personnel health is our focus. Our operators have to eat well, rest and exercise as well during their working periods when they spend ten days in the field,” says Jonny Granlund at Railcare.

Lots of culverts
There are over 1900 railway culverts in Sweden. Many of these are in great need of refurbishment. The Railcare re-lining method with a flexible glass fibre liner is today applied in around 100 drain culverts each year. “Compared to other methods our method is the most mechanized”, says Roland Lindberg, manager for culvert renovation at Railcare. “Not all culverts need total update, also a thorough clearing out of the culvert will secure a much better function. In these cases we can offer at good and efficient solution, using the RailVac vacuum technique.”

If a railway culvert is clogged the water won’t pass properly leading to a weakened railway bank. The worst case scenario is a landslide causing displacement of the rail with the risk of derailing.

Digital control of field events
Better order. Less paper. Better daily control and traceability. This will be the result of the Railcare investment in digital workbooks. A computer software has been developed and the field personnel will log in every day to report the events, e.g. reported errors and service that has been carried out. The operators will also be equipped with Ipads but it is also possible to report via a mobile phone application.

“Our previous report system, using pen and paper, lead to a somewhat mixed report quality. Now it will be easier and quicker to report”, says Jonny Granlund, manager at Railcare. “The need for perfect control is increasing because the machines are used in field all year round instead of being brought back to the workshop in Skelleftehamn each winter for service. The new system will also give the work managers the possibility to get the information they need on a daily basis."

“When everything is up and running during the first part of 2013 we estimate that the efficiency of the report system will be around 10 percent more effective and also much more reliable.”