IS Consulting Ltd provides commercial management services to the transportation industry offering a specialist niche service utilising high quality experienced personnel.

When Gary Sanford, on behalf of Network Rail, was given responsibility for commissioning the country's first measurement train he approached IS Consulting to provide specialist commercial management support to his team. This £12m project required high quality technological and commercial experience to deliver on time and to budget.

IS Consulting is proud to have been involved in successfully delivering this innovative piece of 21st century plant that will improve safety and target maintenance thereby helping to reduce costs.

New Measurement Train

"Thank you for the valuable input that IS Consulting made to the commissioning of Network Rail's New Measurement Train (NMT). As you know the NMT will be instrumental in improving safety on the railway network and pushes back frontiers of innovation in monitoring the infrastructure.

Your professionalism and the spirit of partnership and co-operation with which your team approached the project particularly impressed me and I look forward to continuing our successful relationship in the future."

Gary Sanford

Head of Engineering

Gary Sanford (Network Rail) & Ian Skinner (IS Consulting)

The hi-tech route to fast-track repairs

Not one to balk at getting his hands dirty, Gary Sanford learnt to drive a 64-tonne track grinding train and took it halfway across America to find out how it worked. Alasdair Reisner meets the network operator's head of engineering, who is importing the latest technology to deal with potentially lethal faults on the UK's permanent way.

EUSTON - we have a problem. Poor old Network Rail. It has suffered a go-slow summer apparently caused by the 'wrong kind of heat'. Network Rail bosses will probably only get a short respite before the media blames the 'wrong kind of leaves' or 'wrong kind of snow' throwing the winter timetables into similar disarray.

Under these circumstances it is hardly surprising that Network Rail staff are expected to be a depressed, doughy bunch fretting over a desk full of spreadsheets foretelling the impending collapse of the network.

So thank God for the network operator's head of engineering innovation and examination Gary Sanford - a man who certainly does not conform to this image. The Texan's excitement about the new equipment and techniques his team are bringing to the network is as infectious as it is refreshing.

He enthusiastically announces that "within 10 years, maybe just five years, we will have the best value for money rail network in the world". Maybe it's the fact that, in his own words, he came in to his job without any preconceptions ("part of the reason my team has been successful is through my ignorance".) Perhaps as an American he is unfamiliar with the commonly held view that Britain's rail network is a national joke.

Whatever his reasons, Mr Sanford seems confident of his claims that we are about to see a step change in the quality of our rail network. His reasoning for this claim seems simple to the point of "why didn't we think about it before" starkness.

"The rail industry is quite a reactive industry." he says. "What we have been doing is waiting for a fault to occur and then we try to find it by audit. This is done by setting safety limits. What we are now trying to do is move away from safety limits to commercial limits.

> 'We have started to bring back innovation in-house'
>
> **Gary Sanford**

"Under the old regime we used to be doing track geometry measurement on the fast lines about once a quarter. We want to do it every week and, when we put geometry equipment on service trains, we will probably do it twice a day."

So Network Rail is likely to end up with reams and reams of information. But just knowing lots about the state of the network doesn't directly mean that the problems will be fixed.

"With so much more information it allows us to trend faults. We can see a fault and decide whether it is going to manifest itself in the next week or month or six months. If it's six weeks then we can plan a possession in four weeks' time to fix it. Under the previous regime we would not have done anything until it had breached the safety level at which point something would have to be done immediately."

Mr Sanford's main weapon in his battle to build up the formidable knowledge of the network is the New Measurement Train (see page 33). Previous track measurement systems managed to cover around 40,000 miles of track per year. This year the NMT alone is expected to cover 160,000 miles.

But it will not be the only measurement system used on the network.

The Chiltern line service between London and Birmingham is trialling a simple measurement rig attached to a pair of standard passenger trains. The entirely independent system turns itself on as the train leaves London, records track data over its journey looking for faults then silently relays this information to engineers using a wireless communication system when it arrives back in London.

A separate version of the NMT is also due to be introduced in Network Rail's southern region. The Southern Measurement train was due to be in service by now but is still waiting for approval to run on the UK rail network.Network Rail worked with Plasser & Theurer, who built it, to get its calibrations correct and hopes to bring it into service by the end of the year.

But Mr Sanford has had more success with one of his other introductions to the network. When it was decided that a fleet of 10 grinders (trains equipped with grinding stones underneath them used to make microscopic changes to the rail head, to improve track performance) would be ordered in from the US, he saw an opportunity to get to grips with the new technology.

"We went out to America to do acceptance testing on one of the 64-tonne grinders and then had to move it to port," he says. "I was invited to be part of the team that moved it from Minneapolis to Baltimore. It allowed me to get an understanding of how it worked.

"We are going to put them on the network, not in possessions but working as trains. By being involved for those six days I can understand all the things the guys are going to need to know about both driving it and grinding using it. Yes, it was a bit of a boyhood dream-the Mississippi was beautiful - but the learning was the most important part. No driver can look at me and say; 'you don't understand how this works'."

From September 1 Mr Sanford and his team have taken responsibility for delivering the promises made by the introduction of this new measurement and grinding equipment. If all goes to plan it should not be too long before we start to see the great leaps forward in performance he has suggested.

But he adds that this is not the end of his role driving innovation for Network Rail.

"I have an open door policy," he says. "If I've got a problem I'll draw it on the board in my office. Contractors are now stopping in to find out what my problems are. They are not trying to sell me anything. They are just trying to help me because they understand that there is enough spin-off business just be getting solutions to my problems."

He claims that contractors have even begun to accept the idea of losing some control over their best ideas.

"We have started to bring innovation back in-house, This is not because we want to own it or to take the credit for it. We just want to co-ordinate things so if the right answer comes up we can spread it across the industry. Fortunately, most contractors are proud of their achievements and are frustrated they can't spread it the rest of the network."

The crux of Mr Sanford's argument is that the rail network will improve only if he can rely on both this human innovation and the advances allowed by the new equipment.

"Machines can find problems," he says. "People are need to come up with the correct solutions for those problems. I hope that I have helped release their time to do that. If so, we will see much tighter targeting of maintenance and we are going to see the cost fall dramatically. It sounds stupid but we are going to get higher quality at lower cost.