

JUNE 2011

M A N U F A C T U R I N G

AUTOMATION

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Seated front, left to right:
Sherman Lang, David Green,
Don McCrudden; Back standing:
Bill Valedis, Cheryl Jensen
and Al Diggins.

The next chapter

Our editorial advisory board discusses the manufacturing industry's recovery, the challenges that remain, and the opportunities for growth

Long distance relationship

BY MARY DEL CIANCIO

Connecting field staff and experts *across continents* with mobile video collaboration

Romesh Galagoda is an engineer at North Sails, a world leading sail maker based in Milford, Conn. The company has manufacturing facilities across the globe, including Minden, Nevada and Sri Lanka. Galagoda helps manage the product development department in Sri Lanka, but he doesn't live in Connecticut, or Nevada, or Sri Lanka. Galagoda lives in the Niagara Peninsula, and is able to carry out his responsibilities from the comfort of his own computer in Southern Ontario.

He is able to do this thanks to Onsight, a mobile video collaboration system that expands traditional video conferencing from the boardroom to include physical workers who are on the plant floor or out in the field. Developed by Winnipeg, Man.-based Librestream, the system is designed to visually connect physical workers to the right person, in real time.

After all, time is money. And when you're a company like North Sails, with operations spread across the globe, equipment downtime, lost production, delays in product reviews and high travel costs to troubleshoot problems can kill the bottom line. Costs mount quickly when decisions are delayed.

Using Onsight, Galagoda can receive live video and audio, and

share feedback with field staff in Sri Lanka, external suppliers or customers across the globe to assess operations and resolve issues immediately. Meanwhile, his colleagues — the field workers — can quickly collaborate with him through live video, voice and onscreen drawing using a handheld, wireless device. The system also gives Galagoda the capability to share images or pre-recorded videos to play on the touchscreen panel of the device. By sharing this visual content, he can provide plant floor personnel or field technicians with visual instructions.

About Onsight

The Onsight system is comprised of three main components:

- Librestream's wireless mobile video device;
- Onsight Expert, the desktop collaboration software that runs on the computer of a subject matter expert and allows

ABOVE: The mobile video collaboration system includes software that runs on the computer of a subject matter expert and allows the expert to remotely control all of the camera functions.

RIGHT: Using Onsight, field workers can quickly collaborate with remote experts through live video, voice and onscreen drawing using a handheld, wireless device.

the expert to remotely control all of the camera functions, including illumination, zoom and focus controls to ensure clear visuals; and

- Onsight Management Suite software that provides system administrators with centralized management tools for their Onsight system, and a secure method to configure, update and report on the usage of the Onsight devices and Onsight Expert software.

The handheld mobile device is available in three models — Onsight 1000, Onsight 2000 and Onsight 2000EX. They all provide the same functions — they can be controlled by the Onsight Expert desktop, they have the same 10x optical zoom and the same one-centimetre macro zoom capability. Onsight can even attach external devices like a microscope or borescope to send additional visuals to the expert.

The difference between each model is the form factor. The Onsight 1000 is designed for light manufacturing operations. The Onsight 2000 — which is the model that North Sails uses — is a more ruggedized piece of equipment. The Onsight 2000EX model has hazardous location approvals and can be used in potentially hazardous locations, such as oil and gas, chemical processing plants, aircraft hangars and gas pipelines.

Features of the system include: handheld wireless mobility; real-time, high-quality video stream for immediate collaboration; two-way audio through VOIP with both speakerphone and headset modes; 10x zoom and one-centimetre macro; security, encryption and authentication features; recording capability, still image capture, onscreen drawing; integrated 802.11 b/g wireless networking; high resolution viewfinder with touchscreen support; image sharing mode for low bandwidth network connections; bidirectional image and video file sharing between the field and expert; and an intuitive touchscreen user interface for easy operation in the field.

The Onsight system can be used virtually anywhere, as it connects with wireless, satellite and cellular networks.

“We’ve set up wireless networks pretty much throughout all the factories, so it allows us to move around with the camera on those networks,” Galagoda explains.

When sharing company and product information online, a major concern for all of Librestream’s customers is security. Onsight has multiple levels of security to ensure the safety of customer information, says Marieke Witjkamp, vice-president of Librestream.

“In terms of the actual content itself, what’s being streamed, there is AES128



encryption, so all of the content is already encrypted. There are also WiFi connection security levels. And there’s a wide range of different options that the enterprise can use so that they’re controlling that WiFi side of it,” she says. “So the content is encrypted, the WiFi can be secured, and then there’s also password control that the company can also enforce.”

How many people can use the system at once? Witjkamp says that it is “basically unlimited.” If additional parties are required to assist the remote worker, Onsight can include multiple Onsight Expert desktops at one time, be shared over online meeting tools such as Cisco WebEx, or the Onsight device could be used as a mobile Telepresence camera.

Witjkamp says that they update the

system once or twice a year based on customer input.

“For example, bandwidth is often an issue. [The] last release that we distributed included the ability for people to stream, talk, draw, at under 100 kbps; so [at] under 100 kilobits per second, they can now do all of that.”

The North Sails experience

North Sails purchased the system a year ago, and since then has used it in its sail making operations, to aid in setting up new equipment and in product development.

One recent example is when the company needed new equipment called RTM — resin transfer moulding. The equipment was manufactured in the states and sent over to Sri Lanka.

Innovation through Automation

What makes the Onsight Mobile Video Collaboration System innovative? Here is what North Sails’ Romesh Galagoda and Librestream’s Marieke Witjkamp had to say.

“The things that make this system innovative are the ease of use, the sophistication of the actual camera unit,” Galagoda says. “There aren’t many systems...that have this type of secure data transfer, high resolution ruggedness all tied into one package, including the sort of connectivity, meaning it’s plug and play. I’m not a techy, and most of the people who use the camera aren’t, and it is very easy to use.”

“The Onsight product is always being used in an innovative way with our customers. The product itself is all about innovation,” says Witjkamp. “What it affects is change. So an organization that is using the Onsight system has already been open to changing their processes. Whereas before they may have hopped on an airplane or shipped a product for inspection, they are now changing that way of thinking, and instead of doing that, they’re now using a remote video session to make their decisions more quickly and more accurately.”

“During the process of commissioning the unit, we were able to actually have our supplier be online with the camera to walk our people through the commissioning of the machine, without them (the supplier) having to leave Michigan,” he explains.

Another application example is in product development.

“We’ve been working on new moulds, which then we use to produce parts. These moulds have various details that have to be analysed and looked at, and we have to also inspect the mould once it has been made. So I’m able to sit at my desk and actually record online. I’ll turn on the record feature on the camera and have our team in Sri Lanka do a scan of the mould, which can be captured in high res, and then I’m able to go back and look through all that footage and also look at still images to inspect the parts or moulds. So it allows that to happen quickly,” Galagoda says. “Normally what would have happened is we would have finished the mould, either someone would have to go over there to inspect it, or the mould would get shipped, maybe to our supplier or to one of our facilities here, and we’d have to inspect it. If there was a problem with it, it would have to go back. So it cuts down on a lot of the actual physical transport of parts.”

North Sails also uses the system in the manufacturing of custom sails.

“We’re in a unique market of producing hundreds of custom sails every week, which are quite detailed. Sometimes those details have to be inspected before they leave our site. And because it’s not something like a mass-produced item, there is some expertise required,” Galagoda explains. “So myself or one of the other colleagues will actually get on with the camera. It will be set up to look at certain parts of the sails. One of the things which is critical is the actual dimensions and measurements. So we’ll ask the team to go through and, in real time, place some type of scale such as a ruler or sometimes something like some

type of gauge to be able to measure things. That allows us to do a final QC check on sails going through the production line.

“I’m able to direct people,” he continues. “The worker might not realize the exact location I’m talking about. I’m able to draw marks and arrows, and indicate where I need them to measure from or sometimes move various details like rings and patching or reinforcements. So it is almost like I’m there.”

Another recent example is when North Sails was installing and programming a new CNC machine in Sri Lanka.

“In that case, the camera was one of the only options we had, because one of the programmers in Australia, his wife was about to give birth, and he wasn’t allowed to leave for obvious reasons. We actually would have been probably delayed, I don’t know, maybe two, three weeks or more with the commissioning of the machine because of that,” he says.

What sold them on the camera? Galagoda says it was the illumination ring.

“Sail cloth is quite a sophisticated product, even though it might not appear that way to a lay person. There are various details about the weave tightness and the lamination quality, because the material is laminated together. Having this kind of macro feature, where you can zoom in very easily by just placing the camera on a piece of material, allows us to look at these types of fine details,” he says.

While North Sails mainly uses the system for quality inspections, product development and new equipment setup, Librestream’s Witjkamp says that there is another application that is seeing a lot of growth — maintenance.

“These are the large industrial equipment manufacturers or the aircraft manufacturers, and they are now needing to service these products that they’ve produced in the field,” she says. “Equipment maintenance, repair and overhaul is a very large use case for us because of the business benefits. Often people just

think of the travel cost savings because it’s so obvious. They’re usually able to say, ‘If I save myself one or two trips, I’ve paid for the investment in the Onsight system.’ But the travel cost savings are typically not the highest value to these organizations. Often it’s having your equipment up and running that is saving you the most money.”

The real benefit

Prior to implementing the Onsight system, Galagoda was making up to eight trips to Sri Lanka a year — that’s 30 hours of travel time each way, he says. With Onsight, his travel has been reduced to six trips a year. It has also saved travel for his colleagues. And it’s not just the costs associated with travel that the device saves; it’s the cost of people’s personal time.

“I travel quite often — everyone in our division actually does — so something like this has helped tremendously with us being able to remotely access...as if we were in Sri Lanka to analyse problems or give advice in real time. And the other thing is we do operate with different suppliers and clients all over the globe, and this has allowed us to give them better access and interaction with our team,” he says.

Another benefit, he says, is “the ability to not have to go through digital pictures and use some kind of paint software to mark up pictures and try to explain things...So I’m able to, in real time, point at things and outline different details without having to resort to lengthy e-mails.”

The company has already seen an ROI based on just the travel savings alone. The cost of the camera has been covered if you factor in the trips that the system has saved Galagoda and his colleagues. But, he says, it’s not just about cost savings.

“It’s the benefits that it gives to a lot of our workers and suppliers and clients. We have a better quality of life, which translates into better productivity and happier employees.”

And, truth be told, you can’t put a price on that. 🍁



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Manufacturing Automation, June 2011 issue.*