The project offices are empty and silent

On our previous visit to the main project offices of Melbourne's mighty Eastlink motorway, hundreds of people were bent over computers and paper printouts, jostling in conference rooms, and working extraordinary hours.

Last week you could fire a cannon through the place—practically everyone has moved on to the next job, and the hallways and offices are silently crammed with roadway signs waiting to be installed, before public traffic is invited onto the new artery. A great construction project is close to completion, many months ahead of schedule.

Keeping up with technical advances

Like all major projects of this type, the use of GNSS equipment—for survey, machine control, and accurate recording of various assets—has become an essential component.

In the relatively short time since Eastlink commenced, this technology has marched forward dramatically, and the challenge for the future will be whether top management is capable of making efficient use of what's available today, let alone what becomes available during the lifetime of a commencing project.

Project management will increasingly require people who are very savvy about this technology.

If we cast our minds back to the immediate pre-Eastlink period, the main issue was not whether to use GNSS — that was already a given— but more a question of which brand of survey equipment, of machine control, of total stations, of radio communication, and so on.

In the context of what was exhibited last month at Conexpo, these now appear to be pretty simple questions. Not necessarily easy ones, because of competing claims, but less brain bending than what future project managers have to deal with.

Is there anyone at your end of the phone?

Conexpo was all about the next great leap forward, that of keeping machines perpetually moving by uplifting new design files by radio link directly into their cabs, but much more importantly, of making intelligent and productive use of a wealth of data that'll be coming downstream from the machines.

This downstream data can tell people in the office—whether they're on the site or half a planet away—a great deal about the volume of work being achieved, in real time and in great detail. It's capable of being utilised for refinement and updating of designs, and also as a management tool in the general sense of knowing production rates, and ruuning the job.

But do project planners know enough about recent advances to make use of this invaluable data, or even to make the policy decision of assigning personnel to the project team for the purpose of harnessing the data? If the people aren't appointed, clearly the information will never be used.

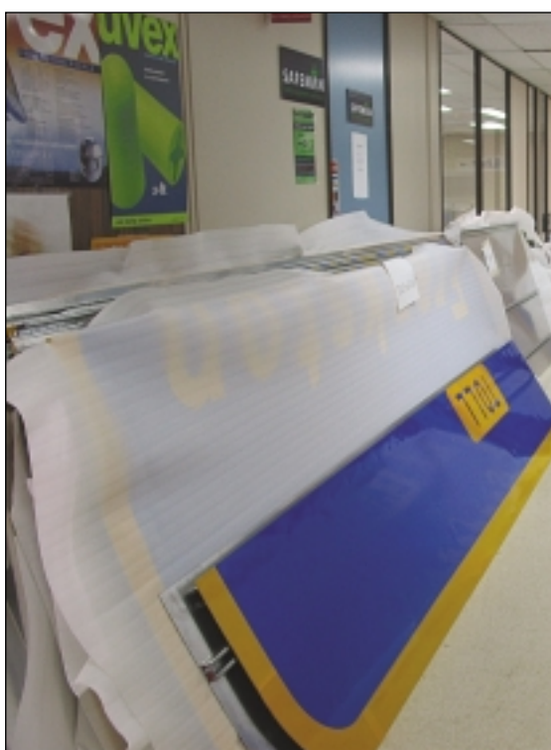
These decisions have to be made by people right at the top — directors and senior managers. We hope they're getting a heads up.

Where did you put it, anyway?

There's another lesson to be learned from a few major projects, recently completed, and it has to do with this: GNSS gear, in it's simplest form on the top of a rover stick, is an excellent tool for fixing the precise location of what goes onto or into a site, such as the precise location of fibre-optic conduits, drains, and umpteen other services running accross, through, or along a road or rail corridor.

No-one would argue that this information is vital, even during the course of construction, but certainly afterwards.

When blokes come along and dig two metre footings for lighting towers or sign gantries or crash barriers, and



do it right through the guts of a fibre optic cable, does it matter whether that happens during the course of construction (and it is, all the time) or ten years later, when 'Dial before you Dig' curses the people who ought to have recorded the location of the wrecked asset?

So, given the fact that the technology for precise recording is available, and is on site, is it being consistently used for this important function? Is there a consistent standard between one project and another? Is there even a consistent standard between different construction segments on one project, such as the six or so sections that employed different contractors on the Pacific Motorway between Brisbane and the Gold Coast. ten years ago?

If not, who do we see about that? Was the need for it properly recognised by the original planners of the project? Was it effectively managed during the course of the project?

Management of design data

Another issue for planners to recognise and deal with at the start of a project, rather than when it's already under way, relates to the provision of the design data that machine control systems require in order to function at all.

There's a difference between the format required by Trimble, Topcon, Leica, and so on. And there are now quite a lot of owner/operators right around the country who have spent good money to equip themselves with machine control gear. Very often, they're the top echelon of operators. But they're not computer nerds who are going to massage data.

It's incumbent upon project managers, if they want to attract all the best people onto their sites, to have a 'shopfront' operation that takes the project's design data and packages it under the consumer brands, so to speak, of Topcon, Cat AccuGrade, et al. Simply put, someone has to plan ahead for this to happen, and ensure that people with suitable skills and resources are on the project team, charged with the responsibility of making it happen. All the more so, as the technology arrives—as it is now arriving—to transmit that design data directly into the cab of each machine on the site. PK

Have your wheels let you down?

Mark Bloxham, the MD at Bearcat, reminds us that for the past three years they've been continually expanding their range of replacement wheels manufactured in-house for a wide range of skidsteers, wheel loaders, backhoes, and other machines.

They wouldn't be seeing such growth in this side of their business, as we see it, if the products weren't cost effective and reliable.

New excavator systems from Topcon

Topcon has released two new and affordable excavator grade control solutions, the X62 and the X42.
The X62 is a basic system that can easily be upgraded to full 3D GPS+ control. The X42 is a low-cost system for excavators and backhoes requiring just basic indicate control.