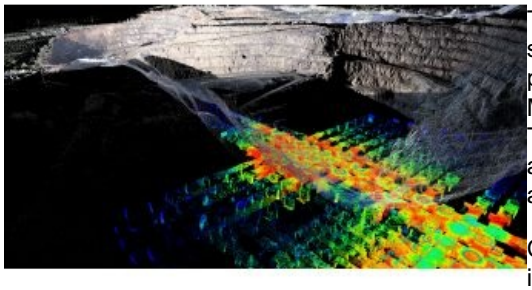
Thereâ€™s No I in Survey



Terrestrial laser scanners were introduced to the mining industry as a smart tool for surveyors – a high-technology method for obtaining data more quickly and safely than previous methods. In fact Peter Johnson, the author of this column, started his career at Maptek overseeing the development of the first purpose-built-for-mining laser scanners. The potential for laser technology to transform entire mine sites was obvious 20 years ago, and the level of detail and accuracy that these compact instruments can achieve is astounding, he writes.

Cut to 2018 and mine site survey teams are facing different challenges, such as the imperative to eliminate silos, necessitating a change in process. Decisions are driven by data which is driven by technology which is driven by the need for a business to control, monitor and understand their operation at an enterprise level. Surveyors still use laser scanners, which are faster, lighter and more powerful than ever before. However, the influence of their role and that data has fundamentally changed – I'd argue it is the discipline with one of the broadest impacts spanning a site.

In the mining technology space, success is driven by timely and proactive dissemination of accurate, current information between organisational functions. Mining professionals at Maptek work closely with customers and software developers to create, deliver and support the best technical solutions to industry challenges. This is how we help our customers navigate the complexities of mining.

Measurement function

On a mine site, success is driven by timely and proactive access to accurate, current information by all organisational functions, and effective decisions and actions based upon the analysis and understanding of this information. This enables robust business processes to be implemented and deployed, creating safe, productive and profitable operations.

Underlying all these critical processes and workflows is the measurement function. Mining is a spatial exercise – we move volumes, we create surfaces, we monitor movement. Surveyors are the professionals with the skills to measure the spatial aspect of this work, and also to set up systems of measurement, processes and tools within an operation to ensure the measurement function is embedded into business processes.

Strategically, survey data is more important than ever before, as it provides critical information to diverse technical disciplines. In a data-driven climate with virtualised operations and remote operation centres, a conversation I would like to bring to the table is the importance of multi-disciplinary teams and critical business processes – and connecting these two important factors through technology.

Data connectivity

What would this interdisciplinary approach to survey data look like?

Let's consider a continuous design-to-plan feedback loop that allows data streamed from a laser scanner in the field to be compared to the mine design in real time. Data connectivity from fleet management systems then provides the capability to direct material movement in real time. Adding more data connections will reveal whether machinery is digging the correct grade of material and ensuring the right product is delivered in the right volume, at the right specification and at the right time. Further connectivity with short term scheduling then enables real-time adjustments to grade control for seamlessly optimising operations.

When this connected team environment and the people acting and making decisions within it are a unified system, then the value of mine measurement and survey will be realised. This empowers informed, confident decisions and hardwires the agility to target continual operational business performance.

My first-hand experience in the development of mine measurement technology over the last 20 years has proven to me that industry is constantly improving as far as technical capability is concerned. The ongoing challenge is to reinforce the benefits of integrating teams and processes.

Peter Johnson is the managing director of Maptek, which develops high-end technology solutions for the global mining industry. A mechanical engineer by profession, he began his Maptek career in the award-winning team developing 3D laser imaging solutions. Peter remains active in developing new business-critical technical systems in partnership with customers and industry.