DIGITALISATION AS A CRITICAL TOOL IN ASSET VALUATIONS, ACQUISITIONS & DISPOSITIONS

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Historically, energy, resources and mining mergers and acquisitions (M&A) analysis have relied heavily on conventional asset valuation techniques.
These techniques use reserve calculations and production projections, discounted cash flow analysis, and technical upside assessment based on history and analogue examples. Commercial opportunity for return on investment usually arises from a variety of areas including untapped potential, operational synergies, the ability to optimise commercial terms, and both hedging and pricing. It’s a fairly traditional approach which is increasingly efficient and done similarly throughout the sector, however it is often hard to identify real game-changing value.

Enter the new world of digitalisation strategies, Digital Twins, and so-called “Big Data”. Companies now have the ability to use massive amounts of information to uncover previously hidden value. However, it’s not as simple as just crunching numbers. The analysis needs to be done with one foot firmly planted in an operational and systems engineering reality, knowing the physics and characteristics of the asset being assessed. One cannot just throw huge amounts of raw data at a digital wall and expect to get anything other than out-of-context analysis. The key here is to emulate a working model of the asset through a well-constructed and accurate Digital Twin.

A Digital Twin is a dynamic, virtual representation of an asset that is permanently connected to its physical counterpart through digital data. Data collected from the physical asset provides the operational context (i.e. the “experience”) that allows the Digital Twin to mimic the behaviour of the real equipment, while allowing the operator to employ digital tools to gain insights, improve effectiveness, and make better decisions about the operation of the asset.

"Nova Systems has delivered a number of innovative digital evaluations, assessments and projects, which illustrate the vast potential of digitalisation."

We’ve enabled our clients to:

- optimise field operations through the application of a Digital Twin of a gas gathering system;
- build a vision and technology road map to automate an underground mining heavy truck fleet;
- digitalise remote wireless communications; and
- develop approaches to lower power costs to energy-intensive sectors.

How can this be used? A common problem is understanding where hidden long-term value really lies. As an asset owner, a digitalisation strategy allows you to prioritise projects and investments and understand where the upside is through asset emulation and data analysis. You can shed low value assets and truly improve your core financials. As a purchaser, a Digital Twin permits more accurate and in-depth understanding of the hidden value in a property through asset operation digital optimisation and allows finely calibrated offers. And as an investor, a Digital Twin lowers risk across the board – operational, resource and reserve, and cash flow, through asset operation digital emulation with the application of “what if” scenarios, dramatically lowering risk and uncertainty. Used properly, it’s the new tool in the investor tool kit.

Should you be doing this? We believe so. Innovative low-cost operators are rapidly transforming their operations to have highly agile digitalisation strategies running constantly and are quickly finding that they can decrease downtime, improve maintenance schedules, and increase production with relatively small investments of time and personnel. It allows staff to focus on the high value tasks they are truly trained for and move out of reactive “fix-the-problem” roles. Integrated digitalisation of complex operations done by a team which understands data analysis and testing and operations, is the transformational step you need.

The above Insight has been published from Nova Systems Energy & Resources program. For further information regarding Digitalisation within complex operations, contact Tim Anderson, Program Manager – Energy & Resources tim.anderson@novasystems.com