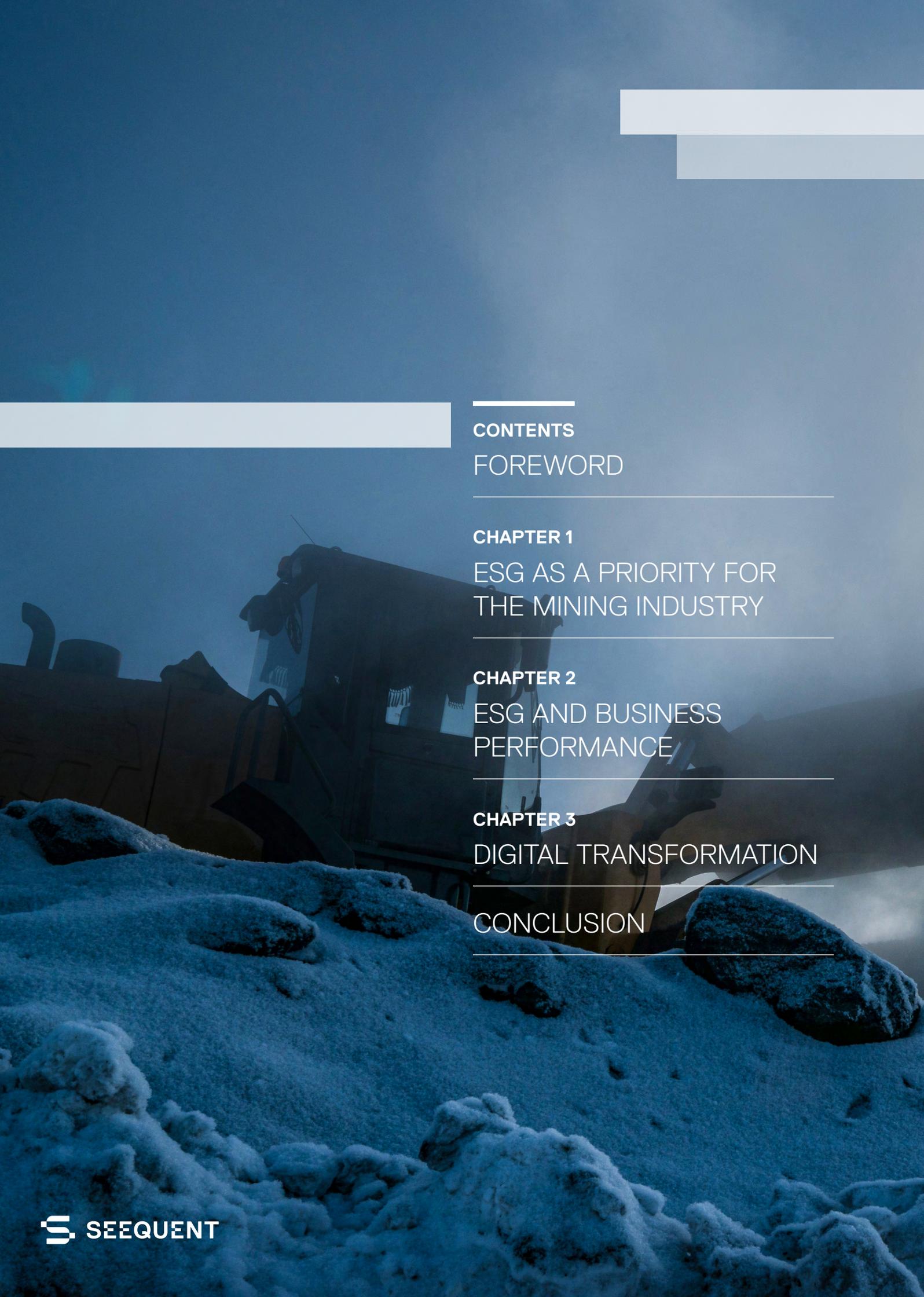

INSIGHT PAPER

INDUSTRIAL MINERALS: Moving the ESG needle in mining – from threat to opportunity



CONTENTS

FOREWORD

CHAPTER 1

ESG AS A PRIORITY FOR
THE MINING INDUSTRY

CHAPTER 2

ESG AND BUSINESS
PERFORMANCE

CHAPTER 3

DIGITAL TRANSFORMATION

CONCLUSION



AUTHOR



COLIN HAY
EXECUTIVE VICE PRESIDENT EMEA, SEEQUENT

FOREWORD

Mining companies with strong Environmental, Social and Corporate Governance (ESG) performance are in a position to reap the benefits of the competitive advantages ESG can deliver, including commanding higher prices for materials.

But to what extent are ESG policies being implemented in practice? What are the key barriers and challenges to adoption? And how can companies in industrial minerals mining adopt good ESG standards and drive better performance while also meeting the growing demand for low carbon and resource efficient societies?

The grace period for companies that are complacent about ESG has come to an end. Mining firms are increasingly being called upon to explain how they plan to incorporate ESG into their planning and operations globally and to demonstrate their ESG performance in a transparent way.

Mining companies can approach this challenge from two different directions. They can either perceive it as a threat, which means a higher risk to being left behind or even driven out of the market, or it could present an opportunity to increase growth, enhance profitability and protect future operations.

In this insight paper, we will examine some of the key trends and initiatives that are pulling industrial minerals mining towards a more sustainable future, the drivers behind them, and how companies can harness the power of technology and data to propel them down the path towards high performance in ESG, more sustainable operations, and a certain future.

The paper summarises insights gleaned from leading industry thinkers including Imerys, Institute of Materials, Minerals and Mining and Accenture who joined Seequent for a [thought leadership roundtable event](#).



AUTHOR



COLIN HAY
EXECUTIVE VICE PRESIDENT EMEA, SEEQUENT

CHAPTER 1

ESG AS A PRIORITY FOR THE MINING INDUSTRY

COMMENTARY



DR. COLIN CHURCH
CEO, INSTITUTE OF MATERIALS, MINERALS AND MINING



LIV CARROLL, MANAGING DIRECTOR
& APPLIED INTELLIGENCE MINING LEAD, ACCENTURE

Evolving the ESG agenda

ESG initiatives in industrial minerals mining are not new, indeed they have been on the agenda for a long time and are well discussed and understood within mining. However, it's in recent years [where ESG has really become a key priority for mining companies, the result of a greatly increased acceleration towards new environmental and sustainability performance targets and far more stringent regulations.

The Global Reporting Initiative (GRI) (an organisation established in 1997 to create an accountability framework for companies to show stakeholders their responsible environmental business practices) first began discussing ESG as an initiative more than 20 years ago. The GRI then began to grow the focus on ESG issues, and soon the term ESG became commonplace in the day-to-day discussions of executives. Today, many investors, businesses and governments use [GRI's ESG framework](#) when considering the impact of operations on critical elements such as climate change, human rights, governance and social well-being.

So why are we still talking about it, and what is causing the sustained and even heightened focus?

The perils of falling behind

As the global community continues to drive the focus on ESG performance, the mining industry has had to overcome an often-chequered past. It has been proven that companies who do not invest their time, resources, and energies into their ESG agendas have paid the price. There is no shortage of examples of incidents where failure to drive ESG into operations has resulted in disastrous consequences, for local communities and cultures due to mining operations.

In today's industry, ESG simply cannot fall off the agenda for mining companies or they risk not only their ability to operate but also jeopardise the confidence their customers and investors have and ultimately hinder the growth of their business in the future.

Today's mining operations

Industrial minerals mining is not only fundamental to the current society but also to the one we're all aiming towards – a low carbon, responsible and self-sufficient world.



Dr Colin Church, CEO, Institute of Materials, Minerals and Mining, comments, “The amount of minerals and metals we need to extract in order to deliver the technologies that will move us towards our low carbon and resource efficient societies is massive. But nobody wants this to be done in a way that creates a negative impact on people or the environment.

“When companies are considering their operations from an ESG perspective, they need to be clear that there is a growing expectation from customers and local authorities that they will conduct operations in a sustainable way, and this means, as an industry, we need to continue to improve and adapt to ensure we are always driving sustainable and responsible operations.”

Moving the needle

Good ESG performance requires companies to look at all aspects of their operations. This includes key areas such as disaster management and prevention, health and safety, and making sure that high standards are in place to prevent mine operation disasters. In a nutshell, ESG ensures people, communities and the environment are not negatively affected as a result of mining operations.

The nature of industrial minerals mining means that quarries and operations are frequently close to urban areas, which has a direct effect on local communities. For mining companies today, good ESG performance is no longer limited to minimising the impact of mining in the countries you work in, the focus must also be on driving positive improvements for local communities.

Companies with good ESG programmes create relationships with national governments, they create opportunities in their local communities and they pay the correct amount of taxes and royalties. True adoption of good ESG performance forces companies to consider what their impact on the world is, both good and bad, and how they can better align with the needs of society.

Liv Carroll, Managing Director and Applied Intelligence Mining Lead, Accenture, comments, “regardless of the project, ESG is always factored into the design of processes as well as into the solutions that will enable the project. In order to achieve this, we need to enable the right data capture that then generates necessary insights that will drive better and better results across the spectrum.

“By putting ESG at the core of everything we do, we have seen a genuine shift in moving ESG from a threat to businesses and operations, to an opportunity for those companies who wholly embrace driving real change and progress.”

Meeting consumer expectations

Today’s consumers are more aware of ESG performance and the environmental impact and sustainability of operations than they ever have been. They want evidence that mining products come from sources that are not negatively impacting local communities, that are not infringing on human rights, and that are mined in a sustainable way through renewable energies.

Through evolving their operations and by applying [digital tools and technologies](#) to unlock the innovations that will inform decision-making, mining companies can embrace this as an opportunity to differentiate themselves as a responsible supplier. Companies who are capturing the right data and harnessing it in an effective way can prove they are committed to responsible, sustainable and energy efficient mining operations.



AUTHORS



LEAH WILSON
VP CORPORATE SOCIAL RESPONSIBILITY, IMERYS



RAINER WESTERMAN
GROUP GEOLOGY AND MINING DIRECTOR, LHOIST

CHAPTER 2

ESG AND BUSINESS PERFORMANCE

In the pursuit of statutory compliance, mining companies are now going beyond simply meeting basic ESG standards. They are bringing about cultural change and entirely new ways of working, and this is driving the adoption of digital tools which enable operations to be more collaborative and crucially, entirely transparent.

Mining companies are implementing digital workflows to manage, scrutinise and utilise data that allows them to not only say they are going above and beyond ESG initiatives, but they can also prove it. This transparency creates more effective and open partnerships with their customers, local communities, investors and auditors, as well as helps attract the next generation of talent.

ESG and profitability

What is abundantly clear is that there is a strong correlation between ESG and profitability, as highlighted by a recent [report](#) from PwC which found that companies with higher ESG ratings (from MSCI) had an average total shareholder return of 34% over the past 3 years, which is 10% higher than the general market index.

If you are good at managing your company from an ESG perspective, and you can prove this, you will be successful and profitable now and in the future.

Rainer Westerman, Group Geology and Mining Director, Lhoist, believes that, without maintaining a strong focus on ESG, mining companies will fall foul in the eyes of their customers and investors. “There is simply zero tolerance for sub-standard ESG practices today, and this is exactly the way it should be,” said Rainer.

“At Lhoist, we have more than 60 mining operations in various territories. Across all of these operations, we have a responsibility to the environment, to the local community and to our investors, and so the focus has to be on driving sustainability and environmental responsibility. Otherwise, we simply cannot operate successfully and perform well as a business, or meet the expectations of our customers and investors.”

Whilst the adoption of ESG policies is increasingly important to the global investment community, it is those mining companies who are moving beyond adoption and turning threats into opportunities that are reaping the highest rewards.

Leah Wilson, VP Corporate Social Responsibility, Imerys, explains that shifting the focus in driving ESG standards can deliver real, tangible benefits to your business.



“Harnessing the power of data when looking at ESG in your operations enables you to anticipate and better manage risks. In some cases, these are growing risks that have the potential to threaten your operations and therefore profitability.

“To do this, you need to have a very forward-looking and robust risk management process that focuses on harnessing data and information to deliver critical insights. For example, if you know and understand the potential impact of the local climate on your operations through conducting a thorough scenario analysis, you can anticipate these challenges, integrate them into your business planning and mitigate any potential risks to your business and the environment in which you are operating.”

Wilson continues, “without a doubt there are reputational benefits associated with being able to demonstrate that you have strong ethics and are driving a genuine commitment to ESG, and this will enable your organisation to demonstrate leadership and to differentiate itself in the market.”

Centralising ESG responsibilities

Many companies are now looking to appoint senior leaders who have direct responsibility for ensuring their organisation is not only meeting standards but also driving innovation and strong ESG performance.

Westerman explains, “10 years ago it would have been highly uncommon for organisations to have roles within their leadership teams dedicated to ESG. With so many touchpoints across all aspects of mining operations, all of which with the potential to impact your ability to operate successfully and safely, it is essential for organisations to make a deliberate effort to focus on ESG within the business.

“To ensure we are always driving best practice across our operations, Lhoist has made ESG an integral pillar in our leadership team and we have had a sustainability team at the core of our organisation for several years. This team is tasked with employing digital tools that unlock the critical insights and intelligence we need to drive not only safe and efficient operations, but also the innovations that will continuously improve ESG performance.”

Inspiring the next generation

ESG performance is increasingly one of the main drivers in attracting the skills the industry needs going forward, and this is a definite shift in priorities for the next generation of talent.

Wilson explains, “the mining industry is all too aware of the concerns of future generations and the potential for them to be less interested in joining the sector due to its environmental impact. The talent we could be attracting into mining will certainly call out companies if they feel they’re not behaving responsibly.

“We know that we are making great strides in driving our ESG agendas and our sector towards carbon neutrality and sustainability, and we also know that we cannot secure the future success of our operations without the next generation of innovators, thinkers and engineers.

“As digital natives, it is this generation that has the potential to unlock hugely impactful innovations, like artificial intelligence, that will really drive our industry forward in terms of ESG. These are the next data scientists and data engineers, AI specialists and climate change specialists, and they are asking companies today about ESG initiatives within their operations before they’ll consider joining the team.

“To ensure the future and sustainability of our sector, we need to be able to demonstrate that we are taking responsibility, that we are being transparent in our operations, and that we are effectively engaging with local communities and stakeholders,” concludes Wilson.



AUTHORS



JAMES EDWARDS

ACCOUNT MANAGER, SENIOR GEOLOGIST, SEEQUENT



DR THOMAS D KROM

SEGMENT DIRECTOR, ENVIRONMENT, SEEQUENT

CHAPTER 3

DIGITAL TRANSFORMATION

Generating data-driven insights

Digital transformation is already having a significant impact on ESG performance, and it has the potential to go a lot further. At the centre of this is data – the single most important asset for any company looking to drive fast, dynamic decision making, at every phase of the mining process.

When data is well structured and easily accessible, it can bring together teams, resources and insights from across a company's operations, creating the opportunity to collaborate and drive real improvements in ESG performance.

Thomas Krom, Segment Director, Seequent, explains, "one of the biggest challenges with digital transformation is access to information. It's becoming easier to collect information, but we are now seeing companies becoming inundated with data that they cannot use, leading to wasted efforts and investments.

"In addition, the data inevitably sits within different systems, architectures and platforms, and unlocking those silos and bringing down those barriers to collaboration becomes exceptionally challenging. Here's where technology companies can really help companies to not only collect information, but to understand it and glean invaluable insights from it.

"[Digital technologies based on open systems](#) make it significantly easier for everyone to get access to data they need, when they need it, allowing them to get a far better insight when considering critical operational decisions that will impact ESG performance. Essentially, if the metrics set at the outset of any operation are wrong, then the end result is not going to achieve the desired effect, in fact it could even have the opposite outcome. Here's where new, innovative technologies really come into their own in helping to drive better ESG performance."

Demystifying digital transformation

When looking to transform organisations and their operations by adopting new digital tools and solutions, all too often the foundations of good data management have been overlooked as a result of the urgency to get to the next big solution. It is increasingly incumbent on software providers to work with mining companies in order to share that burden of innovation. Such partnerships reinforce the case for change that will ultimately deliver real innovation and a step-change in ESG performance.



James Edwards, Account Manager - Senior Geologist, Seequent, explains, “The key to the success of digital transformation is building trust in technologies, as opposed to just building the business case. Trust will mitigate the uncertainty both within the business and in operations. We need to develop a culture that embraces change through the successful execution of initiatives that deliver tangible results.

“The greatest level of uncertainty in any supply chain is always at the front end, and that’s where customers can gain significant benefits through maximising the value of the information they collect. Harnessing the technologies that put data at the centre of any conversation will always lead to a better result.”

Digital ESG enablers

In practice, there have already been significant improvements to ESG performance delivered through digital transformation. From a geology perspective, resources and waste management can be one of the most significant contributors to good ESG performance.

Mining produces waste that needs to be handled properly, as improper disposal can lead to air, soil and water pollution in the surrounding areas. Waste rock, gangue and mine tailings all need to be processed, sorted and transported to disposal areas. Efficient management of this material not only significantly reduces the risk of future liabilities for companies, but it protects communities and the environment. However, if we can’t measure, monitor and track that material with the help of data management, risk mitigation becomes nigh impossible.

Digital solutions empower companies to make better and more sustainable decisions about their earth, environment and energy challenges. With the right blend of technology and tools, companies can ensure compliance with increasingly stringent regulations, set a new ESG gold standard, and deliver genuine and demonstrable sustainability efforts.



AUTHOR



COLIN HAY
EXECUTIVE VICE PRESIDENT EMEA, SEEQUENT

CONCLUSION

The ESG agenda in industrial minerals mining has moved on from its earlier days when the conversation centred around investor pressure and regulatory drivers. It has become as big a part of the value chain as processing or exploration, and it is set to unlock new value in the future. The impact of ESG performance on business success and profitability is no longer relevant just to the investor community – ESG has become integral to successful operations and community relations.

Furthermore, ESG is becoming central to organisational culture and employee engagement, as well as being held as one of the most important considerations for mining's next generation of innovative leaders. Mining companies are beginning to take heed of all aspects of operations and processes that are impacted by ESG, placing it firmly on the boardroom agenda.

While we know new technologies and digital solutions empower companies to make better and more sustainable decisions about their operations, their environment and their energy challenges, technology itself is not sufficient to improving ESG performance.

It's not about digital, it's about data.

With the right blend of technology and tools, companies can ensure compliance with increasingly stringent regulations, set the ESG gold standard, and deliver genuine and demonstrable sustainability efforts.

Key takeaways – what you can do

We've seen the impact ESG has across every aspect of mining operation today, we've seen how this has grown over recent years, and we know this focus is only going to grow.

In order to ensure this increased drive towards ESG performance excellence creates opportunities rather than challenges, there are a number of steps companies can take to protect their investments and resources:

- To consider ESG initiatives holistically across every aspect of operations and to put this at the core of the business
- To communicate with transparency with communities, customers, employees and investors, harnessing reliable, robust and clear data
- To harness the power of your data, through digital tools and technologies to unlock those critical insights from within your organisation that you need to drive excellence in ESG performance
- To use these tools to create efficiencies rather than hindrances for your organisation by partnering with experienced and knowledgeable software companies

To find out more about how Seequent is supporting mining companies with their digital transformation, [contact us.](#)

