



Final reflections and future considerations



This month's article will be my last contribution to the SAIMM President's Corner. It has been a very interesting and rewarding twelve months as President of the SAIMM and I am thrilled to hand over the baton to my colleague Gary Lane as the newly inaugurated SAIMM President. As part of my communication strategy during the last twelve months, I deliberately selected a few, but very critical, areas of engagement affecting our mining industry. I also chose to structure my article contributions through the lens of a Socratic approach. Of course, any reasonable mind is bound to ask: Why the Socratic approach?

Originally attributed to the ancient Greek philosopher Socrates (c.a. 470-399 BCE), the Socratic method is a form of logical argumentation used to uncover hidden assumptions, challenge beliefs, and achieve deeper understanding of complex and contentious issues through a set of continual probing questions. As opposed to the conventional didactic, and often positional discussions based on perceived factual knowledge, the Socratic approach is a self-discovery method that encourages participants to explore complexities and plurality around sensitive topics by forcing them to evaluate issues from multiple perspectives. In my view, the challenges affecting our industry are way too complex, and indeed too complicated, to solve them through a positional and/or zero sum mindset. Case in point is the discussions around retrenchments and layoffs amid market disruptions precipitated by the turbulent global geopolitical environment.

In my first article I made a bold proposition that, with the right technological, economic, and policy conditions, critical minerals and metals can act as key levers for industrial development, leading to sustained technological and economic catch-up. My hypothesis still remains unchanged, particularly in the context of astronomical demand for critical raw materials that are needed to drive the clean energy transition. In essence, the clean energy economic epoch naturally presents windows of opportunity for technological upgrading and industrialisation through value-added manufacturing and localisation of value-added manufacturing activities. Although the role of mineral endowment in the technological and economic catch-up framework is still poorly understood, I support the urgent calls to increase the level of beneficiation of mineral resources in host communities. In my view, this call to action should be universal if we are to address the extractivist curse that has epitomised the mineral resources sector in the global south for centuries.

Obviously, I am not naive to the fact that developing and sustaining manufacturing capabilities is not a trivial endeavour. However, I remain convinced that, with the right economic incentives and policy enablers, such capabilities and competencies can be developed and nurtured for the long-term benefits of our industry and members. If value-addition and beneficiation is a mission, then all that we need are mission-oriented industrial policies and corporate strategies to drive the innovation and technological upgrading in our industry. As an avid reader on this subject, I would like to refer our readers to explore the interesting dimensions of mission-oriented policies presented in the work published by Prof. Mariana Mazzucato (open access article is available here: <https://academic.oup.com/icc/article/27/5/803/5127692>).

I also made reference in one of my articles to China's deliberate efforts to industrialise its economy through strategic support of SMEs and SMMEs (they call them little giants due to their unique capabilities and positioning to grow into national champions) in critical industries. Despite the global contestations on the perceived methods used, the Made in China 2025 policy framework is a noteworthy sovereign strategy that provided the driving force required to catalyse innovation and drive the competitiveness of the value addition and beneficiation supply chains for Chinese enterprises. Germany's SME-centric Industrie 4.0 strategic initiative, supported by a strong vocational education and training system, also provides a comprehensive template for the global south to learn from. Obviously, there are insurmountable challenges and complexities that we have to overcome before we can achieve some of these desired outcomes. I am looking forward to opportunities to engage further on this complex subject beyond my tenure as President of the SAIMM.

President's Corner (continued)

It was an honour that my tenure as SAIMM President coincided with the publication of the Critical Minerals and Metals Strategy for South Africa. The timing of the strategy document is profound in that it comes at a time when we have strong convergence on the need to intensify the local beneficiation of our minerals. The bold declarations to improve the regulatory stability and regulatory flexibility, including deliberate efforts to address other critical bottlenecks, are well received and appreciated. Once again, I would like to reiterate the importance of alignment of the strategy to the broader socio-political economy for us to achieve meaningful economic transformation.

The contribution of mining to the fiscuses and economic development of host countries should never be questioned. However, it would be folly to ignore the negative externalities our industry presents to host communities in the form of potential environmental damage from mine residues, mine impacted water, and airborne emissions. In one of my monthly articles, I highlighted the challenges of legacy mine residues emanating from the historical closure of mining sites and smelters long before the nascent environmental practices came into effect. The environmental potency is obviously exacerbated by the fact that these mine residues are formed ex situ with the potential to undergo physical, chemical, and/or thermal alteration over a period of time, making their long-term geochemical behaviour unpredictable. Additionally, the absence of real-time monitoring data, including limited availability of historical data sets in open access platforms, complicates our understanding of the long-term environmental impact of these legacy challenges. Despite our best efforts, the production and accumulation of mine residues is unfortunately inevitable if humanity is to continue enjoying the same level of affluence and economic development. However, I am convinced that our technical programmes will continue to provide non-zero sum platforms designed to share knowledge and best practices that are required to minimise the environmental footprint of mining activities.

Finally, I would like to take this opportunity to emphasise the need for homegrown technological solutions to transform our industry. With collective effort to develop endogenous technological capabilities, I strongly believe that we can achieve technology sovereignty and mitigate against external technological dependency. To achieve this, we need to strengthen collaborations while continuously investing in building and sustaining multidisciplinary engineering and vocational skills to drive innovation and upgrade productivity and industrial competitiveness. I am optimistic about the future impact from the industry drive to fund artisanal, enterprise, and postgraduate qualifications in the mining industry through the various public and private sector initiatives. In particular, I would like to encourage our young professionals to aggressively pursue any self-learning opportunities available to them, which includes exploring the pursuance of postgraduate qualifications through the various platforms available to support personal growth in the industry.

In conclusion, I would like to thank all those who took their time to read my articles over the past year. I acknowledge the fact that it takes an insurmountable amount of patience to read articles on Greek mythologies, but at this juncture our industry needs to demonstrate hope, resurrection, and renewal, similar to the immortal phoenix bird that cyclically regenerates itself by rising from the ashes of its predecessor.

Capaci occasio.

E. Matinde
President, SAIMM