At the time of writing, there were 3.85 million cases of COVID-19 reported globally, with at least 270 000 deaths. In South Africa, 8232 reported cases and 161 deaths. The South African government has responded by enforcing the lockdown in order to limit the spread of the virus, while medical facilities are made ready for what is inevitable – that the virus is not going to ‘disappear’, but that it will likely spread as the lockdown is eased in accordance with the alert levels.

This realization means that not only must our mining industry adapt to the current lockdown restrictions and the effects of the gradual relaxing of these restrictions, but also to the reality that the way of work will be changed in the longer term.

The most critical issues facing mining companies in the 100 days after lockdown are as follows. These issues are further exacerbated by the legislated phasing of the lifting of the lockdown. In South Africa, open pit operations and underground coal operations may immediately return to 100% capacity, while other underground mines can operate at 50% capacity, with a ramp-up to 100% after the next reduction in the alert level.

Firstly, those operations that can ramp up to 100% may do so under conditions of social distancing and monitoring/screening, while facing challenges in terms of the movement of people back to work. In open pit operations this is relatively easy, but for underground operations it is considerably more difficult.

The constraints that are imposed in this situation are:

- Maintaining social distancing, which requires alternative means of communication and data logging on personal data logging equipment (as opposed to manual recording)
- Remote monitoring of the complete production environment, because manual data collection may not be possible
- Automatic integration of data to central control rooms
- Sending people underground in small batches (teams) so that they (as a team) are separated from the rest of the workforce
- The ability to ramp up after a long period of inactivity. This requires extensive medical screening, and many safety and health risks to be monitored and managed
- The ability to feed the customer, through the logistics chain. Constraints may exist within the supply chain (inbound) as well as outbound, either as a result of restrictions on travel and movement, liquidity, or on logistical capacity (e.g. Transnet), and global shipping availability for export bulk products
- For coal supply to Eskom, a constraint may exist in terms of truck logistics to the processing plant, or from the plant itself
- In all situations, stockpile and inventory monitoring and management is critical, and product quality control is paramount
- Mobile equipment needs to be isolated so that only one dedicated person operates his/her allocated piece of equipment. At shift change, the cabs must be disinfected, resulting in downtime during changeovers.

Where operations can only work at 50% (all other underground operations), severe constraints are imposed in terms of:

- High fixed cost components and impacts of under-utilized fixed infrastructure as a result of operating at only 50% capacity
- The inability to allocate people to discrete teams: this may mean creating new teams of people who have not worked together previously
- Deciding which workplaces can operate: depending on grade, travelling time, safety, environment etc.
- The extent to which downstream stock can be processed without creating stock gaps in the value chain
- The manner in which a return to 100% can be planned and realized, and how long it will take.

The following aspects need to be examined for the future.

During and after lockdown, does this mean business as usual? The answer is definitely ‘no’, based on the following:

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1. This pandemic will not be the last one, and we do not know for how long it will affect us. Given the high degree of global mobility, we can expect more of the same in the future. As a result, the workplace will change forever. The issues of social distancing and medical surveillance will remain, as will mining companies’ relationships with communities and society. Mining companies must become more engaged with community affairs and all aspects of environmental, social, and governance (ESG), propelled by ever-increasing pressure from fund managers and financiers. This all places a financial burden on companies.

2. The difficulty in procuring adequate and applicable medical PPE for underground environments illustrates a need for a rethink on the design and availability of mineworthy PPE for similar circumstances in future. This is also the case with monitoring, and automated biometric monitoring and face recognition will become a necessity in the future. Similarly, the possibility of major influxes of infection has highlighted the inadequacies of some medical treatment facilities, both private and public, with solutions being necessary for the future. These realities will need to influence the discussions around a national health system, and the public/private obligations that will be needed to support it.

3. Social distancing requires greater focus on digitalization, especially in terms of communication, data logging and analysis, and remote/semi-remote operations. Manual entries and large meetings are a thing of the past, and so communication must be instant, real-time to each and every operator/employee, as the organizations become increasingly data-enabled (at a much faster pace than before).

4. This is particularly critical for labour-intensive underground operations, where innovative solutions are critical for sustainability.

5. The need for, and effectiveness of, communication to a very large number of people of different cultures and languages on a topic such as the seriousness of COVID-19 and how to deal with it has highlighted the need to constantly find ways to communicate effectively to individuals, in real time, whether through social media or whatever other system is decided upon.

6. This is not the end of the mining world: the enormous stimulus packages that have been injected globally may result in a scenario where there is a resurgence of demand sooner rather than later, as the world continues to be resource-hungry. This is especially the case for metals that are needed in infrastructure projects at national levels. The industry needs to be ready for that scenario. However, mining has to adapt to new norms in terms of digitalization and ESG responsibilities.

7. This all requires a commensurate thrust on new digital skills requirements, and shifts in demand for mineral products towards those that are used in the digital world.

8. The logistics and supply chain environments may be hurt beyond recovery as a result of the lockdown. Where possible, mining companies will need to engage with suppliers, government, and financiers to assist suppliers to remain viable, and to be able to continue to supply products and services. Similarly, mining and logistics contractors may need support, otherwise severe and costly disruptions may occur while alternative providers are sought. Thus liquidity tests may be required, and alternative intra-business arrangements may be necessary to inject equity or provide finance for ailing contractors. The mining companies may need to facilitate this process, in order to access state support funds.

9. Efficient digital procurement processes and supplier lists will further enhance the need to create a digitally transformed and efficient business.

In addition, Accenture (https://www.accenture.com/us-en/about/company/coronavirus-human-experience) has identified the following essential changes in the workplace that companies will have to deal with.

- **The cost of confidence**: re-establishing confidence that the company can manage its business recovery through focus.
- **The ‘virtual century’**: now that people are used to working remotely and in a digital environment, this may become the norm. Although in some cases virtual meetings may be lengthy, at least they remain focused.
- **Every business becomes a health business**: companies will require to elevate the health focus on their employees, providing wellness facilities and engaging more widely outside the mine fence.
- **Cocooning**: people have become used to working in isolation, and will seek opportunities to continue to do so.
- **The reinvention of authority**: depending on the outcome of this period, partnerships will need to be maintained between stakeholders.
The first 100 days after lockdown (continued)

Priorities for mining companies are therefore:

1. First and foremost, a critical focus on cash flow and liquidity, having been through a period of drastically reduced income while continuing to pay operating expenses and overheads. This means a very sharp focus on cost and revenue drivers, and operating within a new set of constraints imposed by the current situation, especially given the ramp-up regulations and constraints. Failure to do this may result in closure of companies and operations that cannot weather the storm.

2. This is not a focus for company executives alone: it requires the support of Boards, organized labour, the regulators, suppliers, and customers and communities alike in order to ensure sustainability, through continuous dialogue and a flexible approach that allows adjustment and change on a daily basis, as necessary, and as it becomes apparent that regulations or mandates need to be changed as learnings in this new environment unfold.

3. Occupational health and safety is paramount in these changed times: workplaces that need to be restarted after long periods of inactivity, people who have been away from the working environment for extended periods of time, with a change in focus, maybe due to stressed family and financial circumstances. In addition of course, the presence (known or unknown) of the virus, impacting a workforce that already has a high susceptibility due to hyper tension, diabetes, obesity, HIV/Aids, and tuberculosis presents a new complexity. Monitoring and treatment, and thus real-time ability to screen and monitor employees and indeed family and community members, becomes even more important, with a deep understanding of the capacity and capability of all medical facilities, both private and public.

4. The new constraints imposed on operating the business need to be recognized so that they can be managed, and this will require a shift in the business to meet these constraints and to deal with them in a proactive way.

5. It would be easy and flippant to say that as long as one company can weather the storm and come out the other side of the crisis, others can fail and leave the market open. However, this is contrary to the new norms of this situation. As a collective, companies should be aware of what their competitors are doing, so as to collaborate rather than compete where critical areas such as the availability of medical treatment, ESG, and community engagement are matters for a common societal good. Dialogue and the establishment of systems to enable this need to be available.

6. While short-term cash flow priority is paramount, it is very important to maintain a focus on the longer term. Companies that focus only on the short term will forego the opportunity to create the future required in terms of build-up to the requisite capacity within the new set of constraints. This requires affordable investment in mineral reserve creation, skills development, and technology and innovation, especially in terms of moving to a globally competitive, digital environment which delivers real value.

   This is a tactical focus, which requires that the medium-term future is catered for, which covers not only individual assets, but also an optimized portfolio of assets, matched to the market.

   Is there a silver lining to this dark stormcloud?

   Potentially, the minerals industry may emerge into a new cycle of growth, once the pandemic is past and global demand returns after a period of paucity of supply into markets, and then reap the benefits of state support for infrastructure development and the preservation of economies. However, this will likely be in a different world.

   Besides overcoming the current crisis, the industry needs to think (when there is time) on how to be a valued player in the new post-pandemic world. Admittedly, the recovery time will be long, and it will lead into a different world of collaboration, digitalization, and remote operation.

   New industries will develop, bolstered through state support, as a result of the new technological world, but also driven (hopefully) by a global urge to tackle pressing issues together. Imagine, for a moment, if the same global attention and sense of urgency and purpose was applied to climate change as has been applied to fighting COVID-19! Imagine the thrust to develop employment in the clean energy space. Just image the same effort applied to combating famine and malnourishment, and the stimulation of a clean, global agricultural industry while preserving our precious global green spaces and biodiversity.

   Through collaboration, and fighting a common, invisible enemy, new relationships and partnerships have been created and need to be built upon. In these times, can old foes become new friends?

A.S. Macfarlane