

THE SHOW MUST GO ON

HOW TO ENGINEER THROUGH A GLOBAL PANDEMIC

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The declaration by the World Health Organisation (WHO) of a global health emergency soon turned into a global health pandemic as the novel coronavirus spread its wings far across the continents. This news brought with it an air of panic, uncertainty and fear as the future and integrity of countries' health systems and economy were pushed to its limits.

In South Africa, a national lockdown was declared on 26 March 2020 by President Cyril Ramaphosa in order to try curb the spread of this virus. Amongst many things, this lockdown brought with it remote working and trends like #StayHome, which meant that many sectors had to close its doors and have employees set up office in their homes.

One such sector was Engineering and Construction. In a country that relies greatly on the innovation, development, and progressiveness that this sector brings to the economy, communities and the environment alike, **how would employees be able to engineer their way through this global pandemic and come out successful and more knowledgeable on the other side?**

NO TIME SHOULD BE IDLE TIME

Attempting to complete project work remotely can be a challenge considering the fact that most, if not all, engineering projects are usually executed in teams. Utilising time in the most efficient way possible, can ensure that project deliverables are completed in an organised and collaborative manner. That is, engineering a **structured work plan or work breakdown structures** (and sticking to it) will develop skills in time management and planning, as well as ensuring the efficient completion of all project work.

Since projects may be put on hold or delayed due to the pandemic, engineers, project managers and construction managers can develop a **phased-in approach** for when projects start-up again. This will prevent further delays and having a structured work plan in place that has been communicated to all personnel involved will only add to the efficiency of the project execution.

HOT TOPICS: RESEARCH & DEVELOPMENT

If project work seems stagnant even after a lockdown, a look into researching and developing one's knowledge is a great way to spend the days.

A global pandemic will not last forever; economies will have to restart, and companies will have to fully reopen their doors. When this happens, **will engineers be prepared for what the world will require from them?** Hot topics such as LNG, gas pipelines, new construction developments, AI, etc will be set into motion and engineers with the know-how on them will be in hot demand in order to rapidly develop and start-up projects. By utilising this time to increase and expand knowledge on hot topics, engineers around the world will rapidly and efficiently contribute to lifting the world out of the slump caused by the coronavirus.

SOLUTIONS DEVELOPMENT

It is an engineer's second nature to create solutions as soon as any challenge is

presented to them. Isolation and remote working marks the perfect time to utilise these skills in trying to develop solutions and aids in order to tackle the virus. Taking on side projects such as 3D printed masks and face shields and **cooling units for vaccine storage** are all valuable for the public as well as companies alike.

Additionally, asking important questions such as “Can a process be developed to mass produce masks quickly?”, “Can we design a cooling system using LNG to store vaccines?”, “How can we design better infrastructure for retail workers facing customers?”, “Can we design an app that allows quick and easy screening of all company employees?” will further enhance the types of solutions and projects that can be executed to fight the spread of the



<https://www.businessinsider.com/construction-workers-on-going-to-work-during-coronavirus-pandemic-2020-3?IR=T>

coronavirus. The development of such solutions could **save lives and save jobs** if the designs prove to be successful and feasible for implementation.

An engineer needs to have the foresight to be able to **predict any challenges** that will arise with the development of solutions and must be able to solve those challenges. The difficulties presented by the coronavirus extend much further than PPE for the public, with harsh consequences on the economy, healthcare, and the environment. There is no time like the present to engineer effective and efficient ideas and solutions to these difficulties.

WORK AT LOCATION

Engineers often work for companies or in industries that are classified as providing an “**essential service**”. Despite the coronavirus pandemic, engineers will be required to continue working at the office or on site to ensure that the country and its people continue to receive the goods and services that they require. For example: **electricity, foodstuffs, transport, water, and sanitation** are all essential to the survival of a country and its people.

A successful day at the office or on site now not only requires being productive or finishing off that presentation, but it also

requires not getting infected or infecting anyone else. Structuring a **continuous process cycle of personal hygiene** that is carried out in intervals is essential in containing the spread of the virus, especially when having to be in contact with colleagues or Clients at the office or on site:



Although dealing with a global pandemic is demanding in many aspects, there are also multitudes of opportunities available that can help us engineer through and be one step ahead at the end of it. Some opportunities can be undertaken during this time, while others will rise up out of the ashes once the pandemic has passed. When this happens, engineers will have to be prepared for a **new world, a new mindset, and a new vision** of being tasked with finding and executing solutions, no matter the circumstances.