

# Social, technological change on the way for built environment industry – CBE

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The Council for the Built Environment (CBE) has continued its efforts to promote and achieve transformation in the built environment sector, but has added technological change to its focus.

CBE chairperson **Absalom Molobe** on Thursday addressed delegates at CBE's second yearly Transformation Indaba.

The event serves as a past-present-future mirror to gauge the status of transformation, provide a platform for collaboration and sharing of knowledge between the public and private sectors and academia, while interrogating challenges and solutions.

“Change is upon us. We must address the imbalances of the past. We need to participate and collaborate to drive transformation. We need to increase the number of professionals registered in the built environment professions, while encouraging existing professionals to promote sustainable development and environmental protection.

“The built environment must do its bit to promote and enable quality training within the sector, starting at basic education level, up to tertiary institutions.”

Molobe said kids ought to be advised as to which subjects to take when they intend to enter the built environment, while the CBE wants to market the built environment profession in schools and communities.

“We must use maths and science programmes to expose the profession to high school learners and invite older learners to tertiary institutions. We need all built environment sector players to support students through bursaries, donations and internships, for example.”

Moreover, he noted that the world was in the Fourth Industrial Revolution (4IR) and that the sector had to ride this wave of change.

“New technology is transforming the built environment profession, with advanced skills needed for infrastructure delivery. It is critical that CBE and built environments prepare for these changes.

“We need to generate and sustain working relationships between the private and public sector to drive transformation and, ultimately, ignite possibilities that will lead to economic emancipation.”

CBE COO **Mokgema Mongane** noted during his address that architects, engineers, project construction managers, property valuers, quantity surveyors and landscape architects were often under the illusion that the high degree of intelligence and complex skill their jobs required meant they were safe.

However, he explained that virtual reality had given rise to the possibility of designing computer-simulated environments, while artificial intelligence enabled such an environment, along with other tools and machines to learn for themselves, in a more advanced and nuanced way than humans would ever be able to.

Machine learning is now able to master complex tasks, becoming significantly better than humans - for example AlphaGo, which is a Deep Mind project by Google.

AlphaGo is a machine that has been “trained” to analyse situations and visualise all possible moves, to play games such as chess and checkers against humans.

Mongane highlighted that traditional programming entailed data and rules for the computer to create an output. With machine learning, we have output/outcomes as input, as well as data, to observe examples and to deduce rules by itself, taking all factors of the outcomes into account.

The question then becomes, will professionals be replaced by machines? Mongane said just as machines replaced labourers during prior industrial revolutions, it will happen again.

“Machines will be able to deduce rules and design structural aspects of buildings better than humans. Machines could replace accountants, doctors and lawyers. However, with the 4IR come opportunities that were not there before, so we must re-skill on a continuous basis.”

He added that 4IR would not necessarily replace all professionals; however, professionals who embrace it will become much more productive than those who do not.

The CBE is researching the impact of 4IR on skills and job creation, working to incorporate 4IR into the curriculum of academic institutions and working 4IR into continuous professional development courses. 

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