



# CONTACT AFRICA

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## The dilemma of construction growth and skills growth

Throughout history, the face of the earth has been changed by two industries – agriculture and construction. A high quality of life is possible in large part because of a highly-developed infrastructure which consists of roads, railways, tunnels, bridges, communication systems, power plants and distribution networks, water treatment systems, and all of the structures and facilities that support daily life.

Construction, development of infrastructure and economic progress are almost inseparable. Construction represents one of the largest economic sectors in any country and has been referred to as the engine that drives the overall economy.

An important feature of the construction economy is its multiplier effect. It is estimated that for every rand invested in construction, about 80 cents incremental earnings are generated to the Gross National Product (GNP). The corresponding figures are for agriculture about 20 cents and for manufacturing about 14 cents.

• South Africa has proportionately only 10 per cent of the number of scientists and engineers as North America. The United States has 13 doctoral degrees in science and engineering .

From the fiscal point of view, investment in construction is more desirable to boost the economy. In more developed economies, the fiscal policy makers routinely create favourable or unfavourable situations to guide the real estate market which in turn affects the construction and the short term economic environment. Fiscal control of construction is one of the easiest tools to apply, but unfortunately it often takes the construction industry a long time to recover, especially following harsh conditions where firms have sold plant and down-sized skilled labour, such as occurred in South Africa in the dying years of apartheid.

Construction creates large scale employment which by itself is a significant contribution to the national economy. It is also a good vehicle for the distribution of wealth which means that a significant proportion of the money spent in construction moves directly from the rich to poor people, especially in rural areas. We often take comfort in comparing ourselves with the rest of Africa. After all, South Africa has 10 per cent of the total population of Sub-Saharan Africa. Our gross national product is 71 percent the magnitude, and electricity generation 2.3 times as large as the rest of the sub-continent. Indeed, the South African government actually spends a greater portion of its budget allocation on education than any other country, not



only in Africa but in the world. But how do we compare with major industrial nations in technically trained people?

At present only about 35 engineers per 1 million population graduate annually in South Africa. Other comparisons are equally dismal. For, example:

- South Africa only has twice the number of engineers and technicians as New Zealand to serve a population that is over 10 times as large.

On another level, more than 90 per cent of all engineers and 80 per cent of all scientists are still drawn from among the previously-classified white population. This exclusiveness is largely due to a school system that produces one maths and science matric exemption for every 10 000 African school entrants.

The overwhelming economic force of computer technology relative to others, including construction technology, needs to be put into perspective. After decades of slow evolution, the world of construction has changed rapidly in recent years. Even so, the impact of computer technology has only begun to be felt. Consider the economic implications of the different technologies.

- Relative to a constant rand, the cost per unit of construction – be it a kilometre of highway, a hundred square metres of house, or a megawatt of power plant – has generally gone up since the midtwentieth century, in spite of more mechanization, prefabrication, and so on. Certainly, in some absolute sense, things have probably improved; but relative to the economy as a whole, which has improved even more rapidly, construction has become more expensive.

- Things have been somewhat better for automobiles – today's cars are better engineered and more fuel efficient, yet are still within the purchasing power of most workers in industrialized countries (unlike new homes!) – but the gains have still been modest on a relative scale.

- Progress has been greater in commercial aircraft. Around 1950 air travel was mostly for wealthier people, and by today's standards the aircraft were slow and expensive to run. Today's efficient commercial jets fly on less than half the cleaner fuel of earlier models, and international as well as domestic air travel has become accessible to people of average means.

- But compared with computers, even these gains have been modest. It has been said that

if the economics and productivity of aircraft had evolved as rapidly as those of computers, one could travel from Johannesburg to Cape Town for just a few cents and arrive within seconds of taking off. What if we extend this analogy to construction? You should then be able to buy a single-family house for under a rand, and have it constructed while reaching for your wallet!

It is pertinent to note that both construction and education exhibit similar characteristics. The cost of education continues to climb with no significant improvement in the quality of the graduates. If we extend the computer analogy to education, you could educate a learner to graduate level for under a rand!

The question then is, what sort of changes are we talking about, and how are we to implement them. The debate around new technologies cannot be detached from urgent national priorities: education, employment, urbanization, health care and rural reconstruction. These priorities necessitate the development of an education system that can better cope with the demand for science and mathematics. In other words, we need to build a strong technological base as a means of improving the living conditions of all South Africans. It is impossible to achieve acceptable economic growth so long as South Africa remains a scientifically and technologically backward country. Many in the profession assume that computers are easily accessible. In the majority of schools in South Africa, there are no books let alone computers – in fact there is no electricity. How are we going to train future engineers and scientists if computers continue to be available only to a small minority?

The serious lack of capacity in the construction industry needs to be addressed from the basis of ensuring that the outcomes of the education system can be measured and maintained at a consistently high standard. Strategies must take into account the learning and assessment as well as the continued evolution of relevant curricula.



Peter Utting

# President's Message

## CIOB (AFRICA): THE CHALLENGES AHEAD

The challenges facing our industry and profession and indeed our Institute and its members are enormous. We currently operate in an environment of rising inflation and interest rates, fuel and electricity prices shocks and a severe skills shortage. However many of the challenges we face is reflective of the larger economic crisis in the world and although these may impact negatively on our industry in the long term, there is no doubt that our industry is still booming and is expected to do so for some time to come.

CIOB also faces many challenges and its ability to maintain its role as the leading professional body for the construction professional depends to a large degree on the commitment and involvement of its members. There is an urgent need to revitalize our region both at Center committee level and at the level of Council. The regional Centers are the life blood of CIOB and require the active support of local members.

In preparation for the AGM and the installation of a new regional Council in Africa the Interim Council has, at the request of our international office, developed a strategic plan for the Africa region. The plan sets the agenda for the region going forward and addresses the issues of growth, membership support, education and training (including CPD), a new council and new center committees in Africa. It is expected that the incoming council will develop the detailed business plans and as we seek to implement these plans we urge our members to get actively involved in the process, to accept the responsibility for, and work towards promoting change and adding value to our Institute.

Siva Reddy  
Interim President  
CIOB Africa

## ECOBUILD, FUTUREBUILD and CITY- SCAPES EXPO

The Chartered Institute of Building is proud to have participated for the first time at the Ecobuild, Futurebuild and Cityscape Expo held in February in Earl's Court, London. CIOB Africa is even more humbled by the invitation that was extended only to the China and Africa centres. With this being its first time participating, the focal point of the CIOB's participation was centered around hosting both the seminar called Vision 2020 and a meeting with the Budding Brunnels.

The Budding Brunnels programme is a socio-economic initiative - brainchild of Michael Brown - where scholars who have an interest in pursuing any career within the built environment, are given the opportunity to interact with forward thinkers and practitioners within the industry for advice

and guidance. Bridgette Gasa of South Africa and Professor Li Shirong were the 2008 invited guests to address the Budding Brunnels through a variety of topics chosen by the Budding Brunnels themselves.

The range of topics covered: The challenge of Housing in Africa, female practitioners assuming positions of leadership within the industry and climate change. As a leading body for managers in construction, the CIOB sets the pace globally for high standards of professionalism in the built environment and as such their participation in this year's Ecobuild Expo was viewed as integral. A think-tank was set up for internationally recognized industry thinkers with a view that they would tackle issues around sustainability and how construction currently affects the environment within which we live. There were four international leaders in construction who were invited to participate in the seminal debate. Norbert Young who is the President of McGraw Hill Construction spoke on the latest trends in the European and US Construction Marketplace looking particularly at how all participants in the construction economy should be working together towards the future. His talk was an

assimilation of the collaborative work that together with the University of Reading they had been researching over a period of time. This work is of incredible use to the industry as it looks deeply into interoperability and trends. Young's address was followed by Professor Li Shirong's talk on the global nature of the construction industry and the increased importance of collaboration on the world stage.

Bridgette Gasa of the Coega Development Corporation spoke on the African context of initiating and embracing change within the Construction Industry. This talk was motivated by Africa needing to reflect on its own experiences and share key successes with the global stage on what it means to be practitioners in this era, what kinds of solutions are expected for the times within which we live. The challenges that Africa is contending with were outlined, so were the current solutions that have worked. These covered skills development, partnering and alliancing, designs that are responsive to the African climate and circumstance and dealing with valued resources such as water and electricity. Bridgette's talk was then followed by Bob White who is the Chief Executive of Construction Excellence. Bob spoke on Driving change through innovation and research and development. The entire seminar was facilitated by Professor Roger Flanagan. The question in member's minds could be of what value is CIOB Africa's participation in these kinds of seminars. I would venture to say that by the very mere fact that this region is represented on the world stage, and by the very mere fact that Africa gets invited to contribute to the strategic conversation regarding all things pertaining to the sustainability and growth of the industry means that our collective experiences, ability to confront complex projects and submit credible solutions and our word carries quite some weight.

The think-tank will continue to exist and the CIOB will continue infusing it with new subject matters that both forethinkers and practitioners in our time would be given an opportunity to engage on. I would like to encourage members of the CIOB Africa region to start planning for the next seminal event and make their voices heard.

*Bridgette Gasa*  
Interim Council Member



## Gautrain: full speed ahead

Gautrain Management Agency CEO Jack van der Merwe says that there will be a ramp up in terms of visible production and progress as the bulk of the civil work for the country's first rapid-rail link will be done over the next twelve months. He says that across the 43 sites "everything is progressing well" with R3-million spent an hour on the construction of the Gautrain.

Of the 15km of tunnels constituting the route, some 5km have been completed thus far and in September the first breakthrough is expected as the tunnels coming from Marlboro and Mushroom Farm meet. Progress is being made with first train sets to be shipped from Derby next month, as well as the maintenance yard being stocked with equipment and tracks.

### CHALLENGES

The electricity supply constraints and resulting power outages have been effectively managed. The sites draw power

from 19 substations and Van der Merwe notes that the planned outages are handled well. The tunnel-boring machine (TBM), which runs on electricity, has its four-hour daily maintenance period aligned to planned outages so as to avoid any disruption. The power issues are also mitigated by the use of mechanical equipment and power generators on the various sites.

Certain engineering obstacles have been encountered, such as hitting water underground at Park Station. Different geology encountered along the route also poses certain challenges which have to be dealt with as the tunneling progresses.

Additional risks include labour unrest, but Van der Merwe notes that there have only been "little hiccups here and there". This issue has largely been mitigated owing to the fact that agreements were signed with the relevant labour unions before the project began. The skills shortage and raw material supply constraints also serve as possible 'speed-bumps', but Van der Merwe stresses that the key in mitigating these risks has been effective pre-planning.

### SCHEDULE

Van der Merwe identifies May 26, 2010, as the delivery date for the OR Tambo International Airport to Sandton portion of the link, adding that the aim is to be ready by the FIFA World Cup. However, he laments that it is "very difficult to say" at present, but expects that

by mid-2009 there will be a more definitive measure of the project schedule. Contractors have increased capacity with new equipment and a ramp-up to 24-hour operation.

### SOCIO-ECONOMIC DEVELOPMENT OBLIGATIONS

The concessionaire – the Bombela consortium (Bombela 25%, Bouygues 25%, Murray and Roberts 25% and Strategic Partners Group 25%) has agreed to fulfill certain monthly SED obligations, and delivery on these promises is evaluated by an entity called the Independent SED Monitor. Van der Merwe comments that "empowerment and transformation are not easy to police." This required element of the Gautrain project has been achieved, in part, by the black-empowered special purpose vehicle – the Strategic Partners Group – which accounts for 25% of the consortium. Transformation and empowerment are promoted through a combination of equity, direct ownership, the development of black senior management and women, procurement of local goods and services, job creation, and the promotion of broadbased black-economic empowerment initiatives and small, medium and microenterprises. Although Van der Merwe does not believe in a punitive system, but rather "a balance between carrot and stick" there is a penalty of R60-million per quarter if the required SED obligations are not met. This is 'incentive' has resulted in the concessionaire surpassing its SED targets, he adds.

### SKILLS AND JOB CREATION

The project has added to the homecoming revolution with some 51 engineers, 19 of them black professionals, returning to the country to be part of the over R25-billion mega-project. Van der Merwe indicates that the skills transfer is going well, explaining that the only time foreign professionals become involved in the project without sharing their skills is when a specialised task that would not need to be repeated in the country is performed. As this will be South Africa's first rapid-rail link the operator – RATP Development – has signed a 15-year contract that will see the company transfer skills to local personnel, keeping only a few foreign professionals.



# ECONOMICS AND INDUSTRY

Van der Merwe notes that about 21 600 jobs have been created by the project to date and this figure is expected to double. Between 2 500 and 2 700 of these jobs will be permanent and some 40 000 “induced” jobs are expected to be created through the opportunities created by the development associated with the Gautrain.

Infrastructure investment of this magnitude will have ripple effects creating a flow of increased employment and capital through the economy. The development around the Gautrain opens huge possibilities with Van der Merwe commenting that “Sandton is

exploding”. Old Mutual is developing some 250 000m<sup>2</sup> in the area and an 80-storey development is on the cards that will link to the train on its mezzanine level.

The Gautrain will have a capacity of 130 000 passengers a day, which could potentially take that amount of cars off the road daily. The fare structure is aimed at being lower than the “perceived cost” of using a private car, but more expensive than taxi or existing commuter rail fares.

The Gautrain - largest public private partnership in the country's history – is certainly starting to make its presence felt

on the local landscape and also on the international agenda; recently winning the “Best Global Project to Sign” award at the 2008 Public Private Finance Awards. And Van der Merwe is confident that the Gautrain will achieve its ultimate goal of turning public transport into a “mode of choice”, rather than a mode of force for the province's commuters.

## Construction industry demonstrates its resilience by mitigating material shortage risks

The industry appears to be demonstrating its resilience in coping with the raw materials shortage, although there are admissions of coming under a certain amount of pressure and subsequently a need for more pre-emptive ordering and supply self-sufficiency, where possible, it seems that crisis has been averted.

WBHO MD for Construction Louwtjie Nel says that the division has been “very fortunate” and so far has not experienced a “major crisis” related to the raw materials shortage. The concern, echoed across the industry, is the supply of larger bulk raw materials, namely cement, reinforcing steel and bricks. WBHO has mitigated these risks with regard to cement by putting additional silos at its batch plant. Although, Nel admitted that the supply problem had led a day or two being lost it had not comprised the company's achievement of its deadlines.

To augment its steel supply WBHO steel imported some 5 000 tons of the material independently through its reinforcing company. Nel comments that he is still “worried” about the rest of the year as the situation would depend on how demand increases. He adds that WBHO could also “feel the pinch” through



The advertisement banner for Taylor Woodrow features a red border and a collage of images including the Tower Bridge, an airplane, and a satellite. The Taylor Woodrow logo, consisting of three stylized figures and the company name, is positioned in the top right. The main headline reads "Work your way to excellence in the UK". Below this, the text describes the company's 1,400 employees and its focus on construction projects. It lists job openings for Quantity Surveyors, Senior Quantity Surveyors, and Commercial Managers. The advertisement also mentions a recruitment drive in South Africa, with interviews on an appointment basis from June 30th to July 11th, across Cape Town, Durban, and Johannesburg. Contact information for Jen Davey at Hays GlobalLink is provided, along with the email [etwoverseas@hays.com](mailto:etwoverseas@hays.com) and phone number 0044 20 7259 8780. The Hays GlobalLink logo is in the bottom left, and two small images of a tunnel and a clock tower are in the bottom right.

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As a leading provider of business solutions, Taylor Woodrow delivers a range of innovative high quality services for customers, including BAA (Heathrow Terminals 1, 3 and 4, and Gatwick), Docklands Light Railway and Transport for London.

Taylor Woodrow currently has requirements within the UK in the Building (Airports) and Infrastructure (Rail and Energy) sectors, and are specifically looking to recruit:

- **Quantity Surveyors**
- **Senior Quantity Surveyors**
- **Commercial Managers**

Taylor Woodrow will be travelling to South Africa in conjunction with Hays GlobalLink to recruit commercial specialists. Interviews are on an appointment only basis from 30th June - 11th July and will take place across three locations:

- **Cape Town**
- **Durban**
- **Johannesburg**

For further information or to make an appointment, contact Jen Davey at Hays GlobalLink.

**E [twoverseas@hays.com](mailto:etwoverseas@hays.com) T 0044 20 7259 8780**

**HAYS**  
GlobalLink

its on subcontractors who experienced problems with the supply of materials such as aluminum, glass, sheet steel.

Hennie de Clerq at the South African Institute of Construction Steel echoes the concerns over steel supply, describing the situation as “quite tight”. He adds that those in the industry cannot place an order on one of the steel mills and expect it to be filled in a very short time.

“This hits us as being uncomfortable, largely because we in South Africa have become used to very short delivery times – much shorter than the norm for Europe or North America and other places,” he laments. De Clerq notes that it’s difficult to assess the magnitude of a shortage as people may over-order or order from various suppliers so that the mills may be sitting with “duplicate orders each of which has been inflated all for the same final application.”

Although the institute is not aware of any projects that have suffered owing to a lack of steel, manufacturers of sheeting, cold-formed sections and tubes certainly complain that they can’t get as much steel as they can use, especially in view of the international demand for steel products and the high international prices. “The steel producers too can often do better price-wise to export than to sell locally, but they have to prioritise local clients,” De Clerq comments. He notes that the shortage of steel applies as much to reinforcing steel (rebar) as to other steels. De Clerq’s expectation for the situation is that the demand for steel in the building (property development) industry will cool down later this year, but larger industrial and power generation projects may fill the slack. Nel also expects a “cooling off” period in the industry as private and institution-lead commercial building projects come under pressure as a result of the banks reluctance to finance new projects owing to inflationary and other economic pressures.

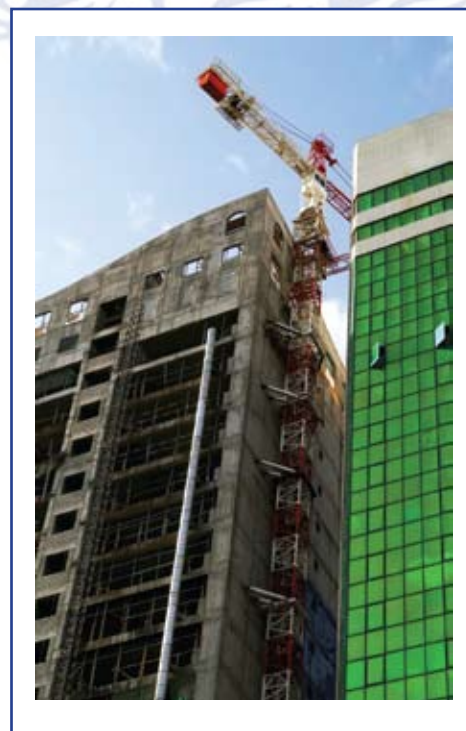
Economist at the South African Federation of Civil Engineering Contractors, Pierre Blaauw says that its members operating in the market are not reporting serious problems with regard to material supply adding that companies seem to be able to plan for any shortages as the suppliers have a good idea of potential future supply.

With regard to the impact on prices Blaauw notes that there is “most certainly upward pressure on certain material prices, for example steel and cement which is a function of both demand pull as well as cost push in the light of rising coal and energy prices”. The contractors protect themselves against

high escalation by identifying problem materials as special materials upfront, hence they claim escalation on rise and fall. Blaauw adds that cement constraints are easing on the back of a slowing residential and non-residential building sector.

## Local green building council to introduce rating system next month

The building sector has been identified by the United Nations Environment Programme Sustainable Building and Construction Initiative as the sector that can make the biggest difference in decreasing carbon emissions in the shortest time and at the least cost. It is said that buildings use some 40% to 50% of the world’s energy and in the South African context where the need to conserve energy has taken centre stage in light of the country’s power crisis and debilitating lack of electricity capacity, green building presents an attractive solution. The adoption of green building practices in construction and property development can reduce energy consumption, as well as carbon emissions and the related climate change.



But how is South Africa faring in adopting these beneficial and environmentally-friendly building techniques and what is needed to give impetus to the sector’s ‘going green’?

The first step in the right direction was the establishment of the Green Building Council of South Africa (GBCSA) last year and its board’s decision to establish a rating system for green buildings. The non-profit organisation - which strives to promote, encourage and facilitate green building in the local property industry through market-based solutions – is basing its rating tool on Australia’s Green Star system. The system is currently being customised to suit the local environment, and is set to be launched at the end of next month.

The GBCSA CEO Nicola Douglas explains that this rating system consists of a suite of tools, each addressing a specific building type. “We are currently busy with a process of customising the first tool (commercial office) for South Africa. This tool will be launched in pilot form in late July. A period of public and industry feedback will follow, after which we will finalise the tool and launch the final version at our first Annual Convention and Exhibition from the 2nd to the 4th of November at the Cape Town International Convention Centre,” she says.

The rating system is being developed under the watchful eye of the GBCSA staff, including its technical manager, US import, Jason Buch and project manager Michelle Malanca - former Green Star director with the Green Building Council of Australia involved in the development of the Australian and New Zealand tools.

The team also comprises local project coordinators, Arup, who are responsible for the formulation of a technical manual and for ensuring that the tool is applicable and appropriate for the local market, as well as a technical working group of some 20 volunteers, all of whom are local experts in their respective fields, including energy, water and transport.

### - HOW WILL IT WORK?

The GBCSA explains that green building rating tool sets standards and benchmarks for green building, and enables an objective assessment of how ‘green’ a building is. The rating system sets out a “menu” of all the green measures that can be incorporated into a building to make it ‘green’. Points are awarded to a building in relation to the measures that have been incorporated, and, after appropriate scoring, a total is calculated, which determines its Green Star rating.

Green Star covers several categories that evaluate the environmental impact that results directly from a project’s site selection brief, design, construction and maintenance.

The rating tools comprise a number of categories, including management, indoor environment quality, energy, transport, water, materials, land use and ecology, emissions and innovation.

Douglas adds that to achieve a rating, building owners would submit their plans and specifications to the GBCSA who will then employ independent assessors to assess the submission and score the building. The rating tool will not be mandatory and Douglas comments that it is intended “to drive the adoption of green building practices among the top 25% of the market, with a knock-on effect of moving the entire industry forward.”

Although the country’s property and construction industry is behind the pack, compared with first-world leaders such as the US, UK and Germany, Douglas is confident that a significant shift is on the horizon. “Most major commercial developers are gearing up to adopt green building practices and more specifically, are aiming to apply for Green Star ratings with the GBCSA,” she says.

Regulations and standards are key to a more wide-spread adoption of green building practices, the government has focused on the energy efficiency element and is developing standards (SANS 204 working group) which would, in time, become legislation. Douglas concludes that “basic standards and regulations are essential to ensuring a large scale take-up, if global warming and other environmental issues are to be effectively mitigated.”



## CSIR sets up advanced technology platform to encourage a shift to green building

The Council for Scientific and Industrial Research - Built Environment senior researcher Llewellyn van Wyk explains that the institution is playing a role in furthering not just green building, but sustainable building, through its investment in research and development and the creation of an advanced technology platform.

With the Green Star assessment tool identifying targets for the industry to achieve, the CSIR is stepping up to the plate in terms of developing technology that can help participants attain, and even surpass, these green goals. The research council has started developing technology to advance the performance of immovable assets, while maintaining a focus on national imperatives such as energy-efficiency and water conservation.

Van Wyk identifies the need for a dramatic “paradigm shift” in the construction industry, and promotes the introduction of a manufacturing approach to construction. This concept would see the industry move from building on site - the so-called bespoke process - to producing the components of a building in a factory and then assembling the prefabricated parts at the chosen location. The manufacturing approach requires technologies in three dominant areas: materials, production and assembly.

Van Wyk says that the materials needed for this evolved building process, which mimics that of the automotive and aeronautical industries, would have to fulfil certain criteria. The materials would have to be high performance, light, strong, robust, reusable and recyclable. The CSIR is currently investigating the use of light-weight steel and

natural fibres as alternatives to conventional construction materials. He notes that the research council has already spent money on exploring the potential natural fibre that can be harvested consistently. The natural fibre would be used as reinforcement in a plastic mix. “Researchers will also identify, develop and test the exploitation of the surface opportunities of identified materials in terms of hardness, embedded colour and texture, self-cleaning, self-healing, pollutant removal, colour changing, and sensor embedding potentials.”

Production technology relates to the ability to send the design from the developer’s computer directly to the production machinery, which would then appropriately retool and cut the product to the required size and shape. Van Wyk points out that computer-aided design (CAD) and computer-aided manufacturing (CAM) are key enablers of this new approach and are core competencies of the CSIR’s work.

Lastly, assembly technology involves the effective assembly of the manufactured components in “a manner that ensures the whole benefits from the integrity of the high performance qualities of individual components. In addition, assembly technology must ensure flexibility, interoperability and disassembly of individual components in line with the emerging open building approach.”

To this end the CSIR has developed an advanced technology platform that will test and “debug” these technologies, thereby eliminating the risk, and assist with the roll-out to the industry. Van Wyk explains that a platform has been adopted rather than a system as the platform facilitates easier sharing of components. He proposes taking from the methods used in the production of motor-vehicles, in which a common component can be used in different applications.

For example the base, or shell, of a building is manufactured and different buildings can use that common product and then customise the building façade. The idea of open building is that structures are designed in such a way that they can be “dismantled rather than demolished” and thereby avoid wasting resources. This would obviously necessitate the use of non-traditional materials and a change in how buildings are designed so

that they can be salvaged, reused and taken back to the market. Van Wyk suggests that buildings are made with movable parts, which allow for design flexibility, so they can be adjusted as the needs of the users evolve.

When asked about the impact of this possible shift to manufactured construction on the industry's labour force Van Wyk concedes that the industry would no longer employ the same numbers. However, those employed would be upskilled and have more formal jobs, rather than remain as unskilled labourers employed sporadically.

Van Wyk admits that the building industry will continue to use bricks and cement beyond our lifetimes and the adoption of sustainable building requires greater investment, more human resources and a drastic change in the industry's mindset.



**Building recognition.**

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We set the pace globally for standards of professionalism in the built environment. The CIOB operates an inclusive approach to recognising and qualifying construction professionals. CIOB chartered members are highly regarded professionals throughout the international construction industry.

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**CIOB Africa**

## CIOB Welcomes New Members

Title	Surname	First name	Grade	Country
Mr	Adegelu	Idowu Olugbenga	ICIOB	SOUTH AFRICA
Mr	Adeleke	Ademola Olufemi	ICIOB	NIGERIA
Mr	Adjei	Victor	ICIOB	GHANA
Mr	Bentil	Emmanuel	ICIOB	GHANA
Mr	Bonsu	Bright	ICIOB	GHANA
Mr	Buertey	Joseph Teye Ignatius	ICIOB	GHANA
Mr	Gough	Keith	ACIOB	TANZANIA
Mr	Gumede	Sibusiso Brian	ICIOB	SOUTH AFRICA
Mr	Hoboyi	Elliot Bongani	ICIOB	SOUTH AFRICA
Mr	Jack	Bitebo Odumye	ICIOB	NIGERIA
Mr	Legoete	Mpho Victor	ICIOB	SOUTH AFRICA
Mr	Ludick	Jacob Johannes	ICIOB	SOUTH AFRICA
Mr	Manyuni	Michael	ICIOB	SOUTH AFRICA
Mr	Mathee	Casper Johannes	ICIOB	SOUTH AFRICA
Mr	Nicholson	Donny Vernon	MCIOB	SOUTH AFRICA
Mr	Nkatia	Stephen Kingsley	ICIOB	GHANA
Mr	Nkgogelang	Sianang Tshimologo	ICIOB	BOTSWANA
Mr	Onalapo	Babatunde Jimoh	ICIOB	NIGERIA
Mr	Opara	Chukwudi Donatus	ICIOB	NIGERIA
Mr	Pienaar	Ben	ICIOB	SOUTH AFRICA
Mr	Powell	Guy Robert Baden	ICIOB	SOUTH AFRICA
Mr	Raveendra	Bennehalli Shankarappa	ICIOB	SOUTH AFRICA
Mr	Sinkala	Simon	ICIOB	ZAMBIA
Dr	Utting	Peter Leslie	ICIOB	SOUTH AFRICA
Mr	van den Berg	Marius Conrad	ICIOB	SOUTH AFRICA