

Sutherland Engineers

providing optimal engineering solutions
that are good for business

Interviewed and written by Claire Cole

Directors photo's by Shawn Benjamin Photography

Everyone who sets out in business aims to succeed – but not everyone succeeds to the same degree. What makes the difference between those who do and those who don't? That is the subject of volumes of business books – but there are certain key traits that make a difference. Among them are a passion for one's area of expertise, surrounding oneself with talented people and a passion for doing good business. Sutherland Engineers – a multi-disciplinary engineering practice – has become an established firm with a strong presence in South Africa and a growing presence in sub-Saharan Africa thanks to this powerful combination. Managing director **Craig Sutherland** gives us some insight into how it all began and where it is going.

The beginning is both poignant and heart-warming. Craig's father and he had both studied civil engineering at the University of Cape Town, specialising in structural engineering thereafter. Gordon had recently retired early from a senior position at a well-known engineering firm. Craig had graduated and after a few years of experience in the industry was travelling whilst completing

his post-graduate business studies. He was living in New York when his father phoned him from Cape Town in 1993, enthused about the dawning New South Africa in the wake of Nelson Mandela's release from prison.

Craig returned from New York in September 1993 just before South Africa's first democratic elections in 1994 to join his father in the fledgling structural start-up practice in the Western Cape. Sadly, in a cruel blow, the very week of his return to South Africa, Gordon was diagnosed with terminal cancer and after working together for three and a half years, during which time Gordon had undergone a full bone marrow transplant, he finally succumbed to the cancer in early 1997. By this time however, the team at Sutherland Engineers had grown to 12 people, and the firm was coming along nicely.

It was up to Craig, now aged 30, to either close down the small business and seek work with an established firm, or to keep the entrepreneurial dream he had shared with his father alive, despite his relative inexperience. He chose the path less travelled, decided to make a go of it, and never looked back.



Craig Sutherland, managing director

Today, Sutherland Engineers has a well-established name in the industry. It is currently one of few fully multi-disciplinary firms in Southern Africa to offer ten engineering sub-disciplines – namely structural engineering (the firm's original core competency), civil, mechanical (including HVAC, wet services, fire reticulation, rational fire design and vertical transportation), electrical, electronics, and specialist façade design. It has four offices in South Africa (the head office in Cape Town and offices in Johannesburg, Durban and Durbanville) and a well-established branch office in Nairobi, Kenya.

Craig attributes much of the firm's success achieved to date to the quality, stability and sheer dedication and hard work of the leadership team consisting of 21 directors and nine associates, leading a total staff complement of 130 full time staff. The senior executive team consists of Wayne Ritchie and Ian Coleman who head up Structures and who have both played an instrumental role in the growth and direction of the firm since joining over twenty one years ago; Thys De Vries who joined in 2004 and who runs the Mechanical Division; Ian Sutherland (Craig's brother) who is the financial director joined in 2006; Keith Adams the HR Director; Jonathan Edwards who runs the Electrical Division; and Sean Couzyn who heads up Specialist Façades as well as the Nairobi office. "We also wouldn't be where we are if it weren't for the many loyal staff members who have shared a great deal of our journey with us. Many of them have been with the firm upward of ten or 15 years, and we are incredibly grateful to them," Craig enthuses.

Zeitz Museum of Contemporary Art Africa
in the Silo district of the V&A Waterfront



Cape Town International Convention Centre (CTICC) - East extension



Artist impression of The Yacht Club on the Cape Town foreshore



One on Whiteley mixed use development at Melrose Arch

The firm has an impressive portfolio of work within and outside of South Africa. One of these is the recently opened Zeitz Museum of Contemporary Art Africa (MOCAA) in the Silo district of the V&A Waterfront in Cape Town. This piece of spectacular architecture is the work of international architect Thomas Heatherwick, who had high praise for Sutherland Engineers enabling his vision on this project. Sutherland has engineered the greater V&A Clock Tower precinct over the past 10 years, including creating one of the largest double basements in the Western Cape, catering for 2000 cars per level, with the lower level needing to resist a full storey height of sea water pressure at spring high tides. Sutherland Engineers has played roles in most of the award winning buildings in the precinct from Silo 1 through to Silo 6; as well as the recently completed Radisson Red Hotel (the first in

Africa), where its mechanical and electrical design teams handled all the services.

The firm's mechanical, electrical and fire design teams are also busy at The Yacht Club, a large mixed-use development on the Cape Town foreshore. Then there is the recently completed, large extension to the Cape Town International Convention Centre (CTICC) where Sutherland looked after the structure, civil and façades in an extremely technically challenging project, which is founded entirely on reclaimed foreshore fill.

The project recently received the Southern African Institute of Steel Construction's steel award in the commercial buildings category, for the structurally challenging double stacked exhibition floor which has very sparse support columns below.

Sutherland’s senior management team comprises eight directors.

Story continues on the next page.



Craig Sutherland, managing director



Ian Coleman, head of structures



Wayne Ritchie, head of structures



Ian Sutherland, finance director



Thys De Vries, head of mechanical



Jonathan Edwards, head of electrical



Sean Couzyn, head of façades and Kenya



Keith Adams, HR director



Park Central, Rosebank, Johannesburg



Clifton Terraces, Clifton, Cape Town



Kings Tower, Lagos, Nigeria

The company is currently involved in the 144 Oxford development in Rosebank, Johannesburg, as well as the Rosebank Link and Rosebank Park Central projects nearby. In Johannesburg there is also the high-profile One On Whiteley mixed-use project at Melrose Arch amongst others.

In KZN there is the Oceans project in Umhlanga – a massive mixed-use development; and at Cornubia, the firm is responsible for engineering the large Hirt and Carter industrial building to mention only a few in the area.

Most recently, it was appointed as the structural and specialist façade engineer on Site B, a large, tall mixed-use building on the foreshore in Cape Town. Sutherland's specialist façade design team is also currently designing the 35 Lower Long building on the Cape Town Foreshore. Over the years, Sutherland has also had regular experience working in the UK market, partnering with local practices and contractors.

In Nairobi, Sutherland Engineers has already built an admirable track record of successfully completed buildings over the past five years or so. One example is the Hub Retail centre in Karen, Nairobi, which was the firm's first project in Kenya.

The team is currently engineering the R1 billion extension to the high profile Sarit Retail Centre. It is also involved in a number of tall residential and mixed-use buildings (currently on site) such as the award winning Capital M project in Nairobi where it is handling all engineering disciplines. Its specialist façade team has designed the gherkin shaped façade of the tall Palazzo building in Westlands, Nairobi as well as the iconic Innovation Hub building in Gaborone, Botswana and the new Hilton Hotel façade in Mbabane, Swaziland. The team is also proud to have successfully handled all the engineering disciplines on the Kings Tower office skyscraper in Lagos, Nigeria and has also worked on various buildings across sub-Saharan Africa in recent years.

Craig believes that the company is very fortunate to have secured many of these high-profile, award winning projects because over the years, it has refined an approach of delivering highly optimised engineering designs, whilst simultaneously being able to push the envelope together with the project architects and other members of the professional teams to design striking and unusual buildings.

Most of Sutherland Engineers' clients are private sector players – listed or privately held property funds, developers and end users: clients for whom the financial returns, feasibilities and the bottom line really matter. "Designing a cost-effective building is really important for most of our clients, so apart from delivering a professional service, not causing delays on fast track projects and producing quality, thoroughly checked designs, we also ensure that all our designs are highly optimised and efficient," Craig explains. This has two important benefits: the first is fully optimising any unnecessary capital expenditure upfront,

but also importantly, not losing sight of the fact that operational cost savings also need to be carefully considered and evaluated over the life of a building.

"We realised early on how important this is for our clients, and consequently, that's where we have focussed as a company," he elaborates. 'Optimal engineering' became the company's slogan early on, and in every discipline, its engineers look for ways to rigorously streamline and refine the systems and elements they design and specify throughout the design process. "This typically costs us more in terms of the hours spent upfront, but we guarantee our clients that on every project we take on we will be ruthless and rigorous in our efforts to come up with a well thought-through, efficient and practically buildable design that saves the client money, often more than our total fee when comparing our design solutions to more conservative, less optimised designs," he says. Applying this business-focused approach, together with strong engineering skills, has been a winning formula.

Cover Story

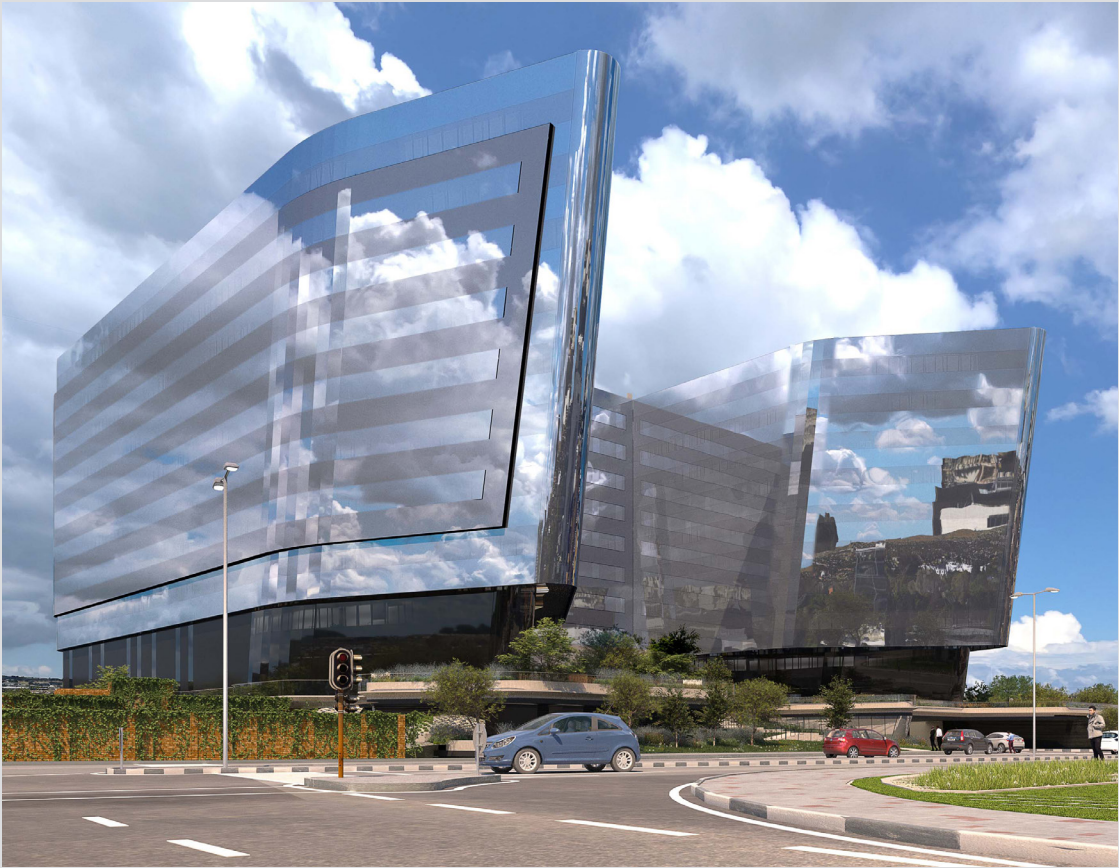
Furthermore, in today’s environment – in which there is increasing emphasis on green and sustainable design, almost to the point where both landlords and high-end tenants are demanding it – being able to deliver an energy efficient building is a desirable skill.

To deliver the above successfully, there is another factor that comes into play – and that is the human factor. It is the ability of every member of the team to pull their weight and work effectively in an often highly pressurised team environment. “In our environment, there are two teams that are important. The first is the team inside the office – typically led by one of our directors, working with more junior designers, detailers and draftsmen. It’s a pressurised environment, there are always deadlines, and we can’t afford either to make mistakes or to hold up construction,” Craig points out. “Our staff have to be team players. We take our staff interviewing and hiring process very seriously, we involve our office teams in deciding on who their new team members will be, and we prefer to nurture our own young talent internally whenever possible,” he adds.

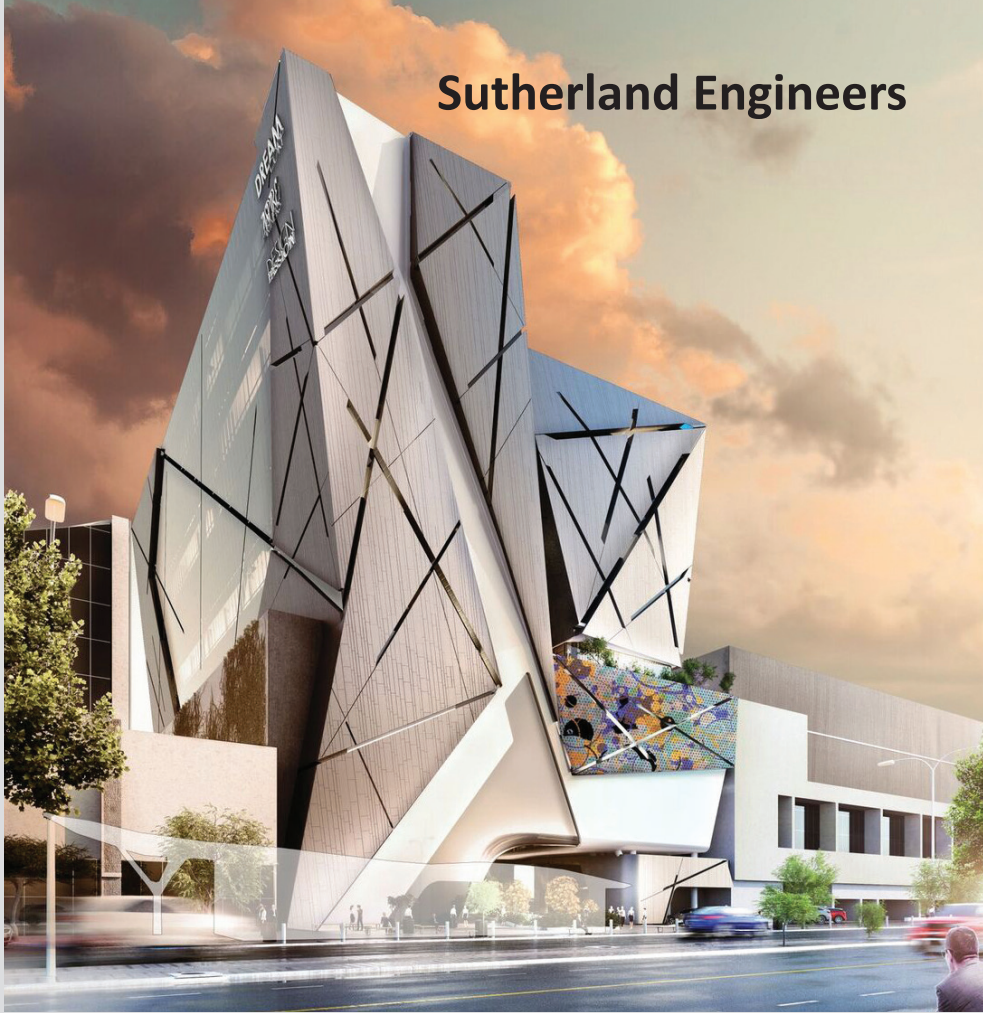
The second team to consider is the project team for each project – in other words, the professional team and construction team. This is a considerably larger and often more diverse team, with players from different firms and backgrounds with different cultures. “This can often present a tough, ego-driven and frictional environment. One wants to minimise tension and stress as far as possible. This is one of the reasons why – although we never push it – many of our clients are often keen to appoint us for multiple disciplines on a project. We already have a smooth working dynamic among our own inter-divisional team members, which is an advantage on a project, especially when combined with the improved in-house co-ordination between the various disciplines particularly in the 3D design and drafting environment,” Craig maintains.

To function well in both internal and external teams, every staff member needs to buy into the company culture and have the right personality fit. “While we never want to be pushovers, we do have a philosophy that we want to be nice people. We want to be energetic, proactive, passionate about what we do and pleasant to work with, basically team players at heart,” he explains.

Sutherland Engineers



144 Oxford, Rosebank, Johannesburg



Rosebank Links, Rosebank, Johannesburg



Oceans, Umhlanga, Durban

He says that it has been his mission from inception not only to make the company an enjoyable place to work at, but to enable all the staff at every level and job description to be proud of what they are achieving every day. Engineering doesn't tend to be a glamorous profession, but it can be a tremendously satisfying one – particularly when one has been involved in amazing buildings like many of those Sutherland has completed.

Keeping staff motivated, continuously improving and excited about their jobs is a whole job in itself – but an important one. Internalising client feedback is important to improving both as individuals and as a business. “We believe that feedback is the breakfast of champions. It might not always be positive but we ask for it anyway – we try to use it and learn from it in an attempt to improve continuously,” Craig comments.

Internal training and mentorship is important to internalising that feedback, and to developing individuals. Sutherland Engineers provides an individual mentorship programme strongly encouraging and guiding its young university and technikon graduates to successfully achieve their professional engineering registration as soon as possible. Continued studying is also strongly encouraged.

Sutherland takes its broad-based empowerment very seriously and for many years has been very involved in, and supportive of, the Go for Gold programme – an initiative which helps young people from disadvantaged communities to reach their potential by offering them additional educational (particularly in maths and science) and life skills support so that they can access better education and employment opportunities. Go for Gold started in the Western Cape, where it has helped over 971 learners since 1999, and it is now operating in Gauteng as well. Many Go for Gold graduates have joined Sutherland Engineers over



Sarit Centre, Nairobi, Kenya

the years – either doing a year’s internship before going onto study further before returning afterwards, or remaining with the company and training internally as CAD operators and Revit draftsmen.

In a further effort to develop young human capital in the profession, Sutherland has developed its own in-house academy, the Sutherland Detailing and Drafting Academy (SDDA), which assists youngsters in developing the needed skills to become draftsmen, reinforcement detailers and CAD operators. The programme won the award in 2010 for the best training pro-gramme in a company of this size across all industries in South Africa. Craig is pleased to note that many of the graduates who have come through the Go for Gold programme and the SDDA are in turn wonderfully enthusiastic about giving back and mentoring and training the new intakes of eager young people in the company. These initiatives have worked well for the Sutherland, with some 28 individuals who have come through their academy having gone on to work within the firm full time.

Embracing technology and being an early adopter of the latest in design and drafting technology has been an important part of keeping the business ahead of the game. With the rapid evolution of technology in recent years, in which buildings are designed by teams in virtual environments by 3D modelling and BIM systems such as Revit, one simply cannot afford to be left behind. Investing in the relevant software and training staff to use it is a vital part of the business. It also has exciting implications for the way in which buildings are designed – enabling greater coordination and accuracy and eliminating clashes on site.

Having established itself as a go-to engineering firm for highly optimised, carefully thought-out and integrated engineering designs, a healthy staff culture and depth of experience, Sutherland is well positioned to grow and develop even further. With a passion for delivering outstanding engineering solutions and a healthy amount of business acumen, Craig and his team have built up an engineering practice that everyone involved can feel proud of. The firm now employs over 130 full-time staff over its five offices and ten disciplines, giving it the capacity to deliver on projects of all sizes and complexities in Southern Africa. With a vision to grow further into sub-Saharan Africa and to be the multidisciplinary consulting engineering practice of choice, ‘optimal engineering’ continues to be its tag-line in a business that just keeps getting more exciting. **A+**



Clocktower Precinct, V&A Waterfront