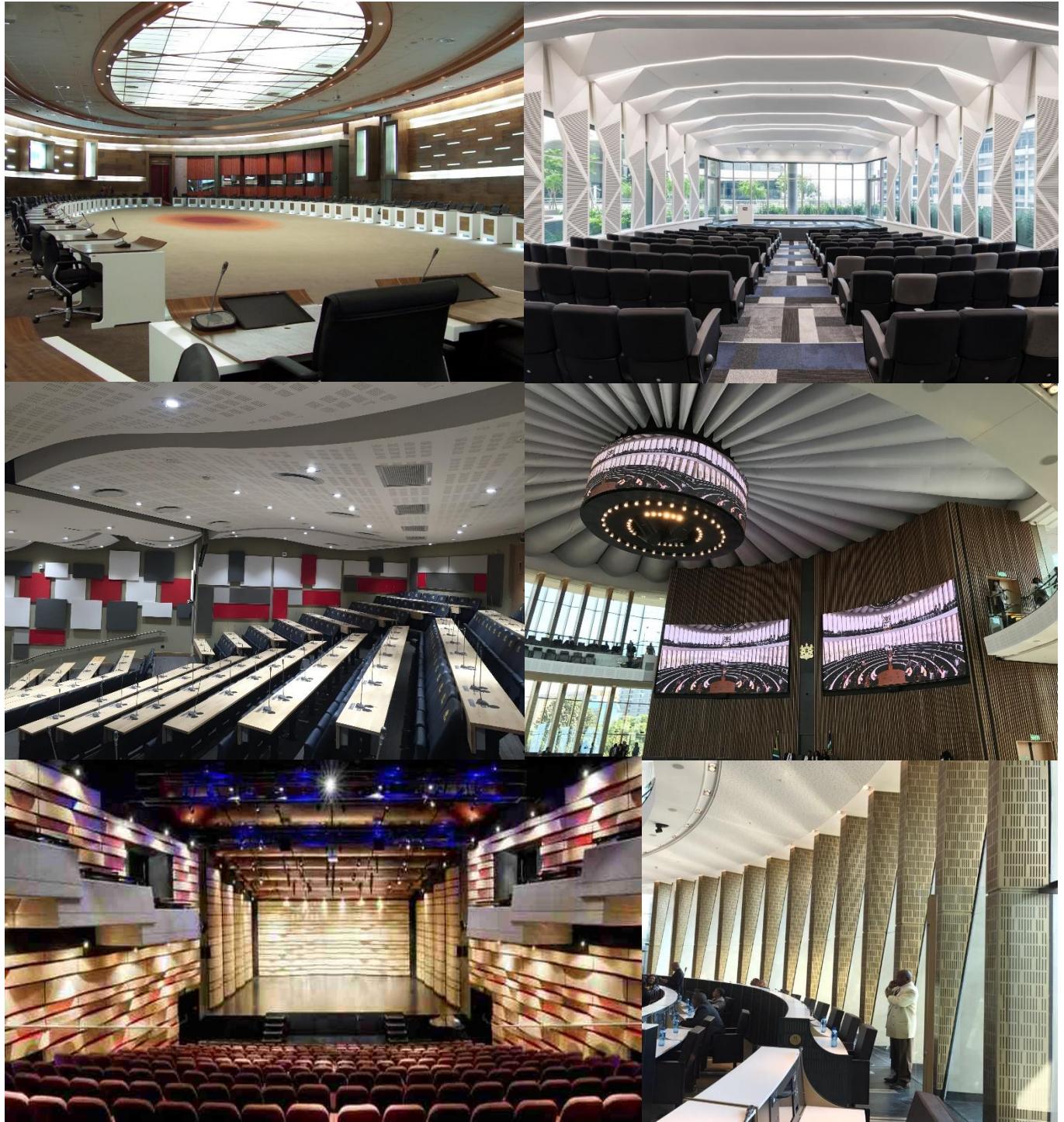


LINSPACE

ACOUSTICS • AV • SPACE ENABLING

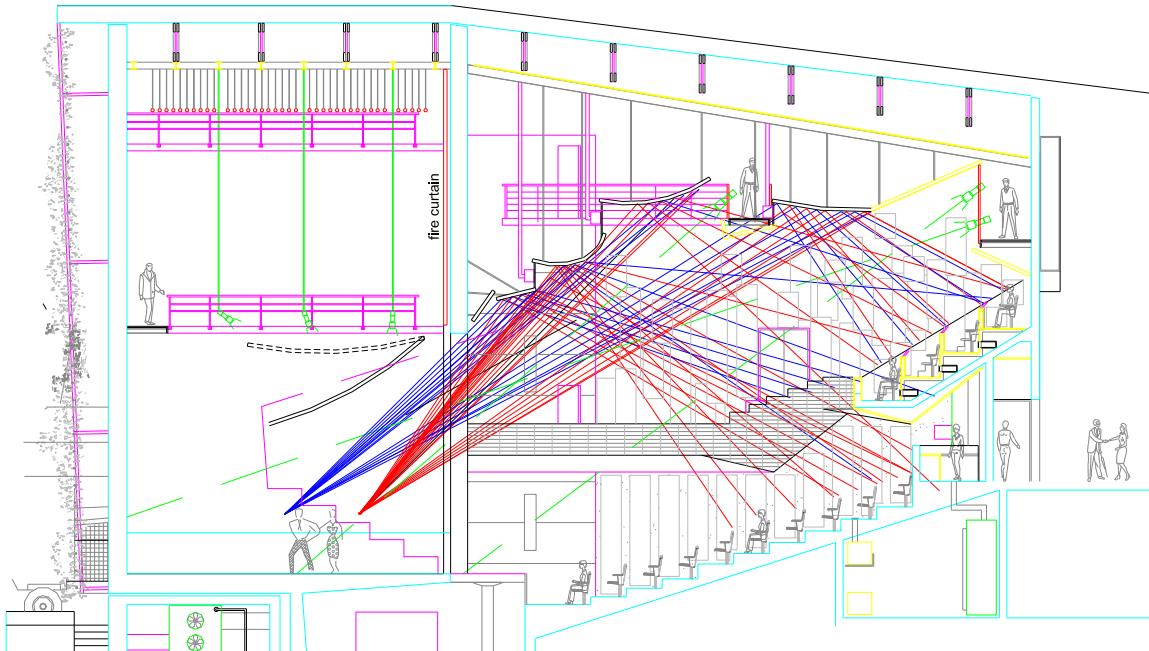
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LINSPACE (Pty) Ltd 2014 / 250741 / 07
Director: Ivan Lin Pr.Eng. BScEng(Elec)(Wits)
Associates: E Johnson

LINSPACE
is a
B-BBEE Level 1 Contributor

1. INTRODUCTION



1.1. Credentials of LINSPACE Engineers

LINSPACE - Previously Known as Pro Acoustic Consulting Engineers (PACE)

26 years of proven consulting track record with the largest client base in Africa.

LINSPACE engineers have been entrusted with major and iconic projects

New JHB glass Council Chamber, SASOL, SA Reserve Bank, DSTV, Bowman glass auditorium, Soweto Theatre, Standard Bank, ABSA, Nedbank, FNB, Vodacom, MTN, Facebook JHB, Google (JHB, Accra & Nairobi), Microsoft (JHB & Nairobi), Old Mutual Sandton, BMW, etc. etc.

LINSPACE engineers are SPACE ENABLERS

The principal engineer Ivan Lin has been actively promoting “User Experience Driven Engineering” or “User Experience Driven Architecture” for the last 13 years.

LINSPACE engineers understand space performance issues

Linspace engineers are active researchers in the relationship between occupant work performance and environmental designs approaches.

LINSPACE enables “Form” to function, beautifully

We design and make beautiful “Forms” work acoustically: www.linspace.co.za

LINSPACE engineers challenge the Norm

LINSPACE engineers believe that even if Norm is OK, it does not mean Norm is acceptable. If any improvement in the space performance/cost ratio is possible, the Norm must be challenged.

LINSPACE engineers set standards

LINSPACE engineers assisted in drafting the following:

GBCSA Office Tool V1 IEQ12 Acoustic credits and GBCSA Retail Tool V1 Noise rating tool

GBCSA Interior Tool Pilot Acoustic Quality credits,

GBCSA Existing Building Performance Pilot Acoustic Quality Credits

LINSPACE engineers set records (possibly!)

Possibly world first deployment of large scale multi-media interface for Parliamentary Delegate System (Cape Town Parliament chamber 2003)

Ivan Lin invented Intelligent Adaptive Multi-zone Sound Masking System (IAMS). More than 150,000 sqm of successful deployment to date in SA.

Ivan Lin has been involved in the design of more than 10 parliamentary environments in SA and United Nations, possibly the most in the world.

LINSPACE engineers have been entrusted by the largest commercial building industry client base in SA.

1.1.1 Acoustics

Architectural Acoustics

The engineers of LINSPACE are recognized leaders in the field of Architectural Acoustics in South Africa. Our role in the Architectural Acoustic field is to ensure that a proposed building will be conducive to its intended purpose from an acoustic perspective.

Recent projects of LINSPACE engineers include the new ABSA Towers West, American International School, Asciopolis, ATNS, Anglo American Johannesburg Offices, Barclays Johannesburg, BCX IT Head Office, BMW Head Office, Citibank Sandton, Council of Johannesburg new Chamber, DSTV new head offices, Embassy Towers, Facebook Head offices, FNB Call Centres, Google Johannesburg, Google Ghana, Huawei Head Office, Hotel Verde Zanzibar, Market Theatre, Microsoft South Africa, MTN head offices, Nedcor New Town Development, Old Mutual new Offices Sandton, Palazzo Steyn, Rosebank Towers – Virgin Active, SASOL Head Office Sandton, Steyn City, Sol Plaatjie University, Standard Bank Rosebank, Telkom SA new offices, Total Johannesburg, University of Mpumalanga, University of Pretoria campuses, Vodacom head offices, Werkmans, Sandton.

Green Building Acoustics

As sustainability, environmental responsibility and employee well-being gains greater relevance and importance in the development of modern buildings, more emphasis is placed on the "green design" of buildings. The Green Star Council of South Africa (GBCSA) was created to establish a common language and standard of measurement for green buildings. This is done through the Green Star rating tools.

An important element of the building design is the indoor environmental quality (IEQ) offered by a building. This relates to air quality, lighting levels and noise levels. It is accepted that internal noise levels have a significant effect on the occupants of a building, affecting their satisfaction, well-being and hence their health and productivity. The GBCSA, through the Green Star Tool aims to "recognize buildings that are designed to maintain internal noise levels at an appropriate level" by awarding up to two Green Star points to such projects.

We have been involved in several Green Star projects, preparing the documentation required to claim the points related to internal building noise levels. Notable examples include the Nedcor Phase 2 building (the first building to be officially certified under the Green Star tool) and the Vodafone Innovation Centre (the first building to achieve a 6 star Green Star rating). Recently, we have been advising on the new Green Building Council Head Office in Johannesburg.

1.1.2 Audio-visual Engineering

In the past, Audiovisual System Design has been a grey area where clients or engineers would be reliant on contractors for proposals. The absence of specialist engineers to prepare technical specifications and to evaluate submissions would often lead to tender award decisions being made with insufficient technical justification.

LINSPACE engineers have identified these problems in recent years and have been entrusted by major clients such as Anglo American, the Department of International Relations and Cooperation, United Nations Office at Nairobi, Macquarie South Bank Limited, Total South African Head Office, Loftus Stadium, Sasol, Cape Town Unicity, South African Reserve Bank Head Office, South African Parliament Chamber, NCOP Chamber, Mpumalanga Legislature, Tanzanian Parliament, Council of Johannesburg, DSTV, American School International Johannesburg, Development Bank SA, Free State Legislature, and recently the Johannesburg City Council Chamber, to provide technical specifications - handling the design, tendering process, and implementation of their AV presentation systems, videoconferencing systems, and parliamentary congress and simultaneous interpretation systems.

1.1.3 Sound Masking

An ideal Sound Masking in the context of an office environment is a means of introducing a well-controlled and calibrated neutral background noise for the purpose of achieving improved speech privacy and reduced sound disturbances between work stations.

A successful sound masking design and installation is non-obtrusive to the occupants and is uniform throughout the floor plate.

A sound masking system on its own cannot provide a total solution in improving office acoustics. Other factors such as the quality and the design of the acoustic ceiling and partitions are equally important to achieve a cumulative improvement in acoustic comfort and privacy.

IAMSM refers to a sound masking system that is intelligent and adaptive to multiple zones of local ambient noise environments. This is in contrast to the traditional approach where an entire building is commonly one single sound masking zone with fixed volumes for the entire building or floor plates.

IAMSM systems use ambient sensing microphones to provide dynamic feedback for each of the defined areas and adjust the masking level accordingly within a predefined range.

The IAMSM concept is not equipment vendor specific. There are multiple South African suppliers that are able to implement this concept.

2. COMPANY DETAILS

2.1. History

Pro Acoustic Devices C.C. 1992-

Pro Acoustic Devices CC (PAD) was established in 1992 with a primary focus of development and research of architectural acoustic conditioning products, mainly for the broadcasting and music industry in South Africa.

Pro Acoustic Consortium (Pty) Ltd 1999-

During 1999, due to the increasing awareness of work space functional quality in the commercial building sector and growing requests received for consulting services, the principal engineers of PAD realised that a product independent architectural acoustic consulting services was required. PAD was then closed and the pure consulting services Pro Acoustic Consortium was born.

Renaming: Pro Acoustic Consulting Engineers (Pty) Ltd 2011-

During 2011, the directors felt that the word “Consortium” was not appropriate. Pro Acoustic Consortium was then renamed to Pro Acoustic Consulting Engineers.

Pro Acoustic - Evolved: LINSPACE (Pty) Ltd 2015 -

Pro Acoustic restructured into two separate companies. Ivan Lin starts a new consultancy LINSPACE in March 2015. LINSPACE is a professional consultancy offering a User Experience Driven Design approach in Acoustics and AV technologies for Architecture and Interior Spaces.

2.2. Registration with professional and associated bodies

- Member of the Green Building Council
- Engineering Council of South Africa (ECSA)
- South African Institute of Electrical Engineers (SAIEE)
- South African Acoustic Institute (SAAI)
- Audio Engineering Society (AES) (International) (individual registration)

2.3. Key technical staff

Ivan Lin Pr.Eng. – Principal Engineer

Nationality:	South African
Qualifications:	BSc (Eng) Elec (Wits), Pr.Eng (ECSA)
Membership:	Engineering Council of South Africa (ECSA) South African Institute of Electrical Engineers (SAIEE) South African Institute of Acoustics, Senior member (SAAI) Audio Engineering Society (International) (AES)
Position:	Director / Acoustic and Electro-Acoustic Engineer
Specialities:	Radio, Television and Music Studios, Auditorium and Theatres, Corporate offices, Conference facilities, Worship Spaces, Casino resorts, Environmental Acoustics, Electro-Acoustics

Ian Gordon

Nationality: South African
Qualification: BSc Eng (Aeronautics) (Wits)
Position: Project Engineer
Membership: South African Institute of Acoustics
Engineering Council of South Africa (ECSA)

Allen Wiggill

Nationality: South African
Qualification: BSc Eng (Mechanical) (Potch)
Position: Project Engineer
Membership: South African Institute of Acoustics
Engineering Council of South Africa (ECSA)

2.4. Associates

Ernest Johnson: Specialist Audio Visual and Teleconferencing Engineer

Nationality: South African
Position: Associate, AV System and Teleconferencing Engineer

2.5. CONTACT DETAILS

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Telephone number: +27 11 886 7693
Email address: office@linspace.co.za
Postal Address: PO Box 411145
Craigall 2024
Johannesburg South Africa
Street Address: Suite 3, Thabana Gardens
62 Alexandra Avenue
Craigall 2196
Johannesburg South Africa

2.6. ACOUSTIC PROJECTS (CURRENT AND PASS PROJECTS)

Auditoriums

American International School Dakar
American International School Johannesburg: Theatre & Arts Court
Botswana School of the Performing Arts
Bowman & Gilfillan new auditorium
BUSKAID Music School
Cell C Auditorium
Conewall Hill College

Office Buildings

102 Rivonia Road (Ernst & Young)
11 Diagonal Street (ex JSE)
129 Rivonia Road: MMI and ENS
ABSA Capital Illovo offices
ABSA Ridgeside Durban
ABSA Towers West
ABSA Project X
ACSA AWPO building

Dainfern College	Ampath Laboratories, Centurion
Dimension Data Campus Development	Anglo American 44 Main Street
Bank of Botswana	Anglo American 55 Marshall Street
Discovery Health Building, Sandton	Anglogold
Drakensburg Boys' Choir Auditorium	ATNS (Air Traffic & Navigation Services) Ltd.
Ekurhuleni Auditorium	Arthur Andersen offices
Eskom Simmerpan	Bank of Botswana
Heronbridge College, Johannesburg	Barclays Bank South Africa
International School Uganda	BHP Billiton – 6 Hollard Street
Jafza VVIP Auditorium, Dubai	B.P. South Africa Head Office
Johannesburg New City Council Chamber	Blue IQ Innovation Hub
JSE Building, Sandton	Bowman Gilfillan
KPMG Campus: Phase 1	British High Commission
Lebone School Hall	Business Connexion
Mapulaneng Hospital auditorium	BMW Head Office Midrand
Midstream College auditorium	BMW Warehouse Extension Midrand
Mmamethlape Hospital auditorium	Centurion Square
National Research Foundation	Citibank Sandton
National Olympic Committee South Africa (NOCSA)	Covington Offices Rosebank
Nedbank, Menlyn Maine, Pretoria	CSIR offices
Nedcor North Sandton	Debswana BDVC Facility & Technical Facility
Newtown Market Theatres	Department of Education, South Africa
Northwest Provincial Legislature Chamber	Department of International Relations and Cooperation, New Head Office
OHR Somayach Synagogue	Department of Rural Development and Land Reform
Pretoria Boy's Auditorium – Phase 1 and 2	Department of Science and Technology
RAU Art Centre	Deutsche Bank Securities, Sandton
Sedibeng College	Dimension Data Campus Development
St Alban's College, Music School	Discovery Health Call Centre KZN
St David's Chapel	Discovery Health Building, Sandton
St Mary's The Edge Performing Arts Complex	Discovery Health Fun Factory
St Peter's Primary School, Johannesburg	DSTV City new head office
St Vincent's School Hall	Edcon Refurbishment
Steinhoff Properties Auditorium	Embassy Towers
Steyn City: School Hall Phase 2	Eris Property Group – Block G
UNISA Florida Library	Everite Limited
UNISA Samuel Pauw Library	Facebook Offices
University of Pretoria: 2012 Lecture Venues	Fairlands Developments: Westbank and FNB Homeloans
University of Pretoria: Engineering III Faculty	FNB Atrium – Port Elizabeth
University of Pretoria: AE du Toit	FNB City Fraser Street Upgrade
University of Pretoria : Groenkloof Campus	FNB Call Centre – Ferndale
University of Pretoria: Javett Arts Centre	FNB Inanda Greens
University of Pretoria: Law Faculty buildings	FNB Menlyn Mall
Wits Music School Auditorium	FNB Umhlanga
Wits Film School Cinema	FNB Windhoek
Convention Centres	Global Options Head Office
Botswana Gaborone International Convention Centre	Google Offices, Accra
International Convention Centre, Swaziland	Google Offices Johannesburg
Jafza, Dubai	Gordon Institute of Business
Madinat Jumeirah, Dubai	Greenhouse, Cape Town
Sandton Convention Centre	Greenstone Multi purpose hall
Entertainment Venues / Cinemas	Hannover RE
Barnyard Theatre Pretoria	Hollard Phase II
British Airways Airport Lounge	Huawei Head Office
Boardwalk Casino, Conference Centre and Hotel	Illovo Phase 3
Bulwer & New Osizweni Arts Centre	In2Food Offices
Emperors Palace Cinemas	Johannesburg City Council
	JSE Building, Sandton

Golden Gate Dino Park	KPMG Campus: Phase 1
Germiston Theatre	Lakeside Growthpoint
Hyde Park Events Venue, Sandton	Law-on-Keyes
International Broadcast Centre for FIFA 2010 World Cup	Liberty Life Head Office
Soccer	Lesotho Central Bank
Jabulani /Soweto Theatre Complex	Macquarie Bank, 1 Sandton Drive SA office
Market Theatres	Marsh Head Office
Northgate MTN Sundome	Menlyn Maine Development
Ocean Basket Branches	Midstream College
Ster Kinekor	Midstream Medical College
Southdowns Art Theatre	Microsoft Head Office
United International Pictures (UIP) Preview Cinema	Microsoft Nairobi
Hotels/Apartments	Midrand Vodaworld Auditorium
ALM Hotel (Viceroy) Seychelles	Momentum Life HQ
Boardwalk Casino, Conference Centre and Hotel	MTN Boardroom
Capital Hotels and Apartments Sandton	MTN Phase II and Campus Development
Caesars Casino, convention centre (world trade centre)	MTN Regional Offices
Carnival City Casino, Brakpan	MTN Swaziland
Embassy Towers Sandton	National Council of Provinces (NCOP)
Emperor's Casino Arena and Hotel	National Research Auditorium
Grandwest Casino, Cape Town	Nedbank Lakeview
Hilton Double Tree Gaborone	Nedbank Phase II
Hilton Double Tree Mbabane	Nedbank Newtown
Hotel Verde, Zanzibar	Nedcor North Sandton
Houghton Apartments and Hotel	Old Mutual Emerging Markets
Jafza, Dubai	Pan African Parliament
Leonardo Legacy, Sandton	Peregrine, Katherine Street Towers
Palazzo Steyn	Polifin Auditorium
Pullman Hotel Accra	Rand Water Auditorium
Radisson Red Rosebank	Rio Tinto Head Office, Johannesburg
Secunda Graceland Casino Complex	Rosebank Towers – Virgin Active
Steyn City, Johannesburg	SAB Central Office
Sibaya Casino	SABS Call Centre
Witbank Casino	Sappi Boardroom
	Sasol Head Office
	Sasol Oil Randburg
	Softline head office, Woodmead
	Sol Plaatje University, Kimberley
	Stauch Vorster Architects
	Standard Chartered Bank
	Standard Bank, Morningside College
	Standard Bank of SA Ltd., Executive meeting room, Johannesburg
	Standard Bank of SA Ltd. Kingsmead
	Standard Bank of SA Ltd., Rosebank
	Statistics South Africa
	T-Systems Head Office, Midrand
	Telesure Building
	Tiger Brands Head Office
	Upbeat Properties 101 – Total
	Head Office: Refurbishment
	Unilever Durban office
	University of Mpumalanga
	University of Pretoria: Engineering III Department
	University of Pretoria: Study Centre
	University of Witwatersrand: Pro Development Building
	University of Witwatersrand: John Moffat Hall
	Vereeniging Town Council

Durban studios
 Music Control Room
Johannesburg studios
 Radio 5 Studios
 M4 music studios
 Radio OB Vehicle
 M4 Music Studio Control Room
 Henry Video Production and SSL Final Mix
 Drama Studio
 M2 music studios
Bloemfontein
 Music Recording Studio and Control Room
Cape Town : Music Recording Studio and Control Room
Port Elizabeth studios
Scorpio Music
Shine Studios
SASANI Studios new Stage 1 and 4
Stark Studios
Swaziland Broadcasting Studios
Swaziland Broadcasting Corporation
Downtown Studios
Classic FM SA Radio Studios
Primedia Studios Johannesburg
Radio Algoa On Air Studios
The Refinery Video/Audio
YFM Rosebank Studio complex
Universal Music Studios (EMI)

Mechanical Noise Mitigation Design

Absa Towers West, Johannesburg
Anglo Platinum, Rustenburg
Discovery Fun Factory HVAC, Sandton
FNB Menlyn Corner, Pretoria
Green Park Towers HVAC, Morningside
IS Data Centre, Randburg
JSE Data Room, Sandton
Sci-Bono Laboratory and Lecture Venue, Johannesburg

Stadiums

Loftus Versfeld Stadium Acoustics and Audio/visual
Systems upgrade to meet FIFA 2010 requirements

Vodacom Florida, Bronberg and Midrand
Wilde-at-Heart: Wonderland and Greenhouse
World Bank
Zurich Reinsurance, JHB CBD

Places of Worship
Apostolic Faith Mission, Botswana
Bet David, Johannesburg
CSI Johannesburg North
CSI Kyalami Castle
CRC Johannesburg
Bethesda Church, Pretoria
Christian Family Church, Boksburg
Church on the Hill, Nelspruit
Delta Church, Moreleta Park
God First: City Green
Gracepoint Church
Eastside Community Church, Pretoria
Great Park Synagogue
NG Studentgemeente
Real Life Church
Rivers Church, Morningside
Rosebank Union Church
St Dunstan's Church
Universal Church Kingdom of God, Parkstation

Green Star Surveys and Assessments

ABSA Towers West, Johannesburg
BCX Head Office
Centurion Square
DSTV Randburg
Green Building Council Head office Cape Town
Hyundai Head Office
Illovo Phase 3
KMPG Campus, Johannesburg
Nedcor Phase 2 building, Sandton
SASOL Corporate offices
Upbeat Properties 101 - Total
Villa Mall, Pretoria
Vodafone SSIC