BEX Structured Products (Pty) Ltd

ABOUT BEX:

BEX Structured Products ("BEX") is a professional service advisory business that specialises in business enterprise optimisation using financial modelling, derivatives and engineering techniques:

BEX works with the executives of leading South African and multinational corporations to solve their most important, complex and recurring challenges; and to exploit their opportunities. In so doing we are able to add sustainable, verifiable and significant value to clients.

Where appropriate BEX will advise on capital raising utilizing either debt or equity funding. In this regard BEX, has significant experience in funding all aspects of industrial, financial, insurance, telecoms and marketing businesses as well as having participated or advised in transactions in the mining and property sectors.

OUR EDGE:

We differentiate ourselves by always employing rigorous financial techniques and technologies, fused with an intimate understanding of the practical business context and detail. It is through this fusion that we are able to advise our clients on a course of action that is value enhancing and cost effective and at the same time feasible to implement. This enables them to practically attain their objectives in the most efficient and effective manner.

Merely being 'strategically' or 'directionally' correct is insufficient for us. We operate in a world of deliberate precision, and absolute accuracy. Our task is to embrace complexity and then refine it into objective clarity.

BEX operates through an established network of professional partners to deliver client focused solutions thus providing access to some of South Africa's leading corporate financiers, engineers, mathematicians, actuarial scientists and software programmers, working seamlessly across their respective disciplines in order to deliver advice to clients that will result in significant and tangible value.

We define optimisation as:

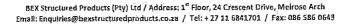
A rigorous scientific process designed to discover the configuration of components of a business system (enterprise and/or industry) that will result in greatest achievement of the desired outcome or objective function.

OUR CLIENTS

Some of the Optimisation projects that BEX and our partners have been involved in historically:

Within the Long Term Asset Optimisation Realm:

Major Mining Multi-Commodity	Development of probabilistic capacity models for the validation of production		
Conglomerate	plans and business cases for new investments		
Major Mining Multi-Commodity	New Mining Technologies in Rock Cutting – Scenarios were designed to formulate		
Conglomerate	business cases for different rock cutting technologies relative to other		
	conventional mining methods		
Major Platinum Producer	Modelling, optimisation and the implementation of new mining technologies and		
	methods in the mining industry, Financial Analysis, Strategy, Stochastic scheduling		
	& analysis (Risk Management), Extensive layout design & analysis of New Mining		
	Technologies, Implementation of New Mining Technologies & Mining Methods		
	within the Mining Industry, development of a Management Operating Systems for		
	Underground Mines, Operational Time Studies, Analysis & Mining Method		
	Optimisation, Mining Method Visualisations,		
Major Platinum Producer	Probabilistic analysis of underground operations' production schedules using		
	Monte Carlo techniques to validate their long term plans.		
Major Global Gold Producer	Production scenario planning for several key mines.		
Major Platinum Producer	Half level optimisation and costing.		
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Major South African Gold	Life of Mine scenarios - the development and implementation of detailed NPV		
Producer	and cash flow models focused on evaluating multiple what-if scenarios for their		
	competent persons report at all their Underground Gold operations.		
World Leader in Alloying Metals	Opex modelling of a new investment in South Africa of the French based		
	company.		
Major Open Pit Platinum Mine	Expansion Validation - Using stochastic discrete event simulation, Cyest tested the		
	feasibility of a 25 - year life of mine plan. The purpose was to determine whether		
	the mine could deliver sufficient material to support the planned plant		
	expansion. Our team determined the confidence level associated with the target		
	and recommended specific interventions to raise the confidence to an acceptable		
	80% level. As a result, the mine now plans to use stochastic discrete event		
	simulation to validate their short - term plans as well.		



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Examples of different optimisation scopes:

Capital Optimisation

The objective functions here could be Maximise Value (NPV); or Maximise Returns (ROCE, ROI, etc.) or Maximise Capital Efficiency (economic profit); or minimise Risk.

And the constraints would typically include — capital (funding), availability of investment pipeline, etc.

Asset Optimisation

Asset Optimisation occurs after the investment decision has been taken (during the capital optimisation stage) and the problems tackled here refer to how the assets (plant and equipment) can be configured to achieve the desired objective function.

Examples of sometimes-conflicting objective functions here include goals such as — maximising asset life, ensuring the lowest unit cost, or yielding the greatest return, highest short-term profitability etc. Examples in this realm would include — the design and layout (of a plant, a mine, a logistics network); the allocation and scheduling of assets, etc.

Resource Optimisation

This realm of optimisation is the most operational / granular and occurs once the assets have been decided upon and configured during the asset optimisation exercise.

Resource optimisation refers to how resources are organised around the assets in order to for example – minimise unit cost, or minimise total cost, or increase margin, or maximise profits, etc.

In other words the asset configuration and physical capacity becomes the constraint around which resources must be organised. Examples of decisions in this realm include – resource type, quantum and allocation; production schedule, etc.

Within the Operational Resource Optimisation Realm:

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A Leading Global Export Coal Group	Capacity analysis for Load and Haul operations using Discrete Event Simulation to
	establish unit cost reductions of 20%;
A Leading Global Export Coal Group	Development of fleet management diagnostics using Android devices to assist in
	parking haul trucks.
Major Platinum Producer	Design of an underground mechanised mining management operating system for
<u> </u>	plloting new mining methods and technologies.
Major Diamond Producer	Value Driver Tree implementation and support for operational diagnostics purpose
	of an open pit mine.
Major Mining Multi-Commodity	Development of a virtual reality centre to deliver enterprise wide experiential
Conglomerate	learning to 1,500 people per year.
South African Ferro Chrome	Production and Budgeting model - development and implementation of budgeting
Producer	model for a Ferro Chrome processing plant.
Major Diamond Producer	Implementation of a plant model to track operational progress, activity based
	costing, scenario analysis and blend optimisation.
Large Copper Operation	Developed a model allowing the planners at a large open cast copper mine to
	schedule trucks and shovels that would allow for maximum production efficiency.
	and allow the planners to quickly optimise the value chain on a shift level basis
	across the value chain.
Leading Iron Ore Producer	Built a capacity analysis model for an iron ore mine that allowed them to identify
· · · · · · · · · · · · · · · · · · ·	constraints and opportunities to increase production by 15%.
Major Platinum Producer	Development and implementation of detailed OPEX cash flow model focused on
	evaluating multiple what-if scenario for new projects:
Major New South American Iron Ore Operation	Mining simulation — The operation had developed a production ramp-up plan for
Gre Operation	their new processing facility. The question was, what would be the equipment
	requirements to meet this plan with adequate confidence. Using stochastic discrete
	event simulation techniques, Cyest Analytics determined the correct fleet sizing to
	deliver ore with 80% confidence. Additionally, we showed the incremental benefits
	of additional equipment. The mine continues to use the model to validate its short
4	- term planning
Major New South American Iron Ore Operation	Plant simulation - in conjunction with the mining simulation, the operation required
	a plant simulation model that would validate the production ramp - up plan, and
	also quantify the likely impact on production of various risks that the operation had
	identified. Using equation - based modelling and Monte Carlo techniques, Cyest
	Analytics delivered a system that would fulfil this role. The operation continues to
	use this model to test their ramp - up strategies and steady - state delivery
	expectations.

Within the Capital Raising Realm:

BEX has successfully been involved in capital raising for privately owned and Public Companies across a number of sectors and industries. Our success in this area of business is a result of our long-standing and trusted relationships with financial institutions and "High Net Worth" family offices both in South Africa and Europe.

CONTACT US

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