COMET STRATEGY

15 YEARS OF EXPERIENCE

MORE THAN 100 MINING PROJECTS

MORE THAN 200 WORLDWIDE ACTIVE USERS

OPTIMIZING THE WORLD'S MOST COMPLEX MINING ASSETS FOR OVER 15 YEARS.

COMET
STRATEGY

Comet Strategy Pty Ltd is a boutique mining consultancy specialising in the provision of the tools and support required for effective strategic mine planning.
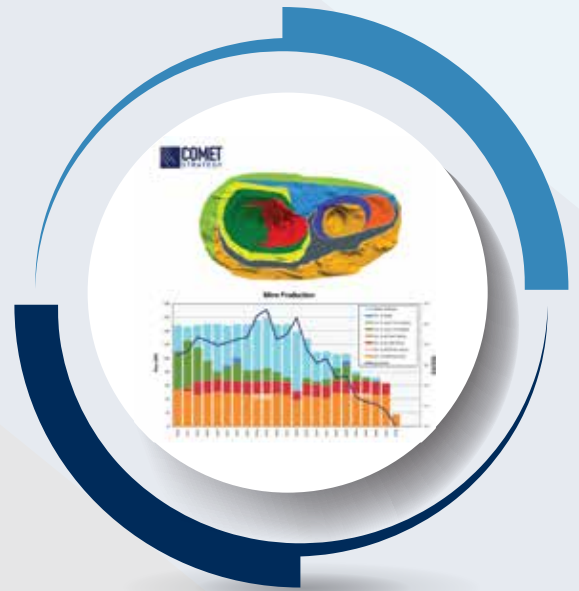
COMET
SOFTWARE

In the 15 years since its initial development, COMET Software has been used on more than 80 of the world's most valuable properties (surface and underground mines), and it is now running in excess of 100,000 scenarios each year for projects located on every continent in countries including; Australia, Chile, Canada, PNG, Philippines, Peru, Suriname, Brazil, USA, Mongolia, Namibia, among others.

COMET Software is an advanced multi-policy schedule optimisation tool developed to optimise both single mine and complex combinations of surface and underground mines using common infrastructure. The objective of each optimisation is to maximize NPV, taking into account productivity, operational constraints and economic conditions that change throughout the life of the project.

The COMET algorithm simultaneously optimises multiple policies such as pushback/strip sequences, variable processing cut-off grades, haulage to multiple destinations, stockpile creation and depletion, process recovery (throughput/recovery relationships), multiple ore types and any number of processing facilities and methods.

COMET has been used on many different types of projects including; Copper, Gold, Silver, Platinum, Uranium, Bauxite, Coal, Iron Ore, Diamonds, Nickel, Zinc, and Molybdenum.

COMET has been used by many of the world's leading mining companies including; BHP Billiton, Rio Tinto, Newcrest, Glencore-Xstrata, CODELCO, Teck Resources, Anglo American, MRN, Antofagasta Minerals, among others.

COMET
CONSULTING

COMET Strategy provides specific consulting services and tailored solutions to complement the optimisation tools to help the client reach their strategic objectives and unlock value of each resource.

COMET
TRAINING

COMET Strategy provides a range of training courses including;

• Introduction to Mine Planning
• Elements of Mining Economics
• Introduction to Optimisation
• Foundation COMET Software
• Advanced COMET Software
• Medium-term Scheduling using COMET Software
• COMET Software: Distributed Processing

SOFTWARE
FEATURES & CAPABILITIES

The COMET Software is an advance Strategic Mine Planning tool, for advance and experienced Mining engineers.

This tool therefore is mainly used by the Project Evaluation teams from most of the Tier 1 mining companies in the world, with the common goal of Maximising the total value of a Mining Asset (NPV).

LONG TERM SCHEDULING (LOM) FOR NPV

1

Optimal Mine plans that Maximise total NPV and meet all project and operational constraints, including economic conditions that change with time. For Open Pit and Underground mining methods.

VARIABLE CUT-OFF GRADE OPTIMISATION

2

Determine the optimum Cut-Off Grade per period and per Ore type / processing destination for your Long / Medium Term Mine Plan.

OPEN PIT & UNDERGROUND OPTIMISATION

3

Optimise projects that have Open Pit and Underground operations on the same deposit or mining lease. Optimise to decide the sequence of extraction of both methods in series or in a parallel manner.

STOCKPILING & REHANDLING

4

Maximise the utilization of your resource and maximise the value of your project by using our Stockpiling and Reclaiming automated capabilities.

PROCESSING FACILITIES OPTIMISATION

5

Select the optimum processing method and processing capacity for your project or operation.

MULTIPLE PROCESSING DESTINATIONS OPTIMISATION

6

For projects and operations with multiple processing methods, COMET will optimise the production schedule by sending material to its optimum economic processing destination, to Maximise NPV of the project and to fulfil the processing capacities and constraints.

MULTIPLE OPEN PIT OPTIMISATION

7

Optimise one or multiple open pit projects/operations with multiple phases in parallel or in series to Maximise the overall NPV of your assets.

BLENDING

8

Achieve blending targets for product control and maximisation of recovery.

GRINDING & RECOVERY OPTIMISATION

9

Optimise Mill Throughput versus Recovery to Maximise the total cash flow per operating hour.

INFRASTRUCTURE & OPERATIONAL EXPANSIONS (CAPEX) OPTIMISATION

10

Optimise multiple infrastructure and capital expansion scenarios simultaneously.

TRUCK & SHOVEL FLEET OPTIMISATION

11

Define the size of your Truck and Shovel fleets per period, and for the entire Life of Mine (LOM) in your Optimum Mine Plan.

ENGINEER DEFINED REPORTING & EXPORT FUNCTIONALITIES

12

Create Financial, Production and Technical reports as detailed or as simple as required.

CLOUD BASED MULTI SCENARIO OPTIMISATION CAPABILITIES

13

Use our Cloud Based capabilities to evaluate as many scenarios as the project and engineer needs in a swiftly, efficient, and simple manner.

MEDIUM TERM GUIDANCE

14
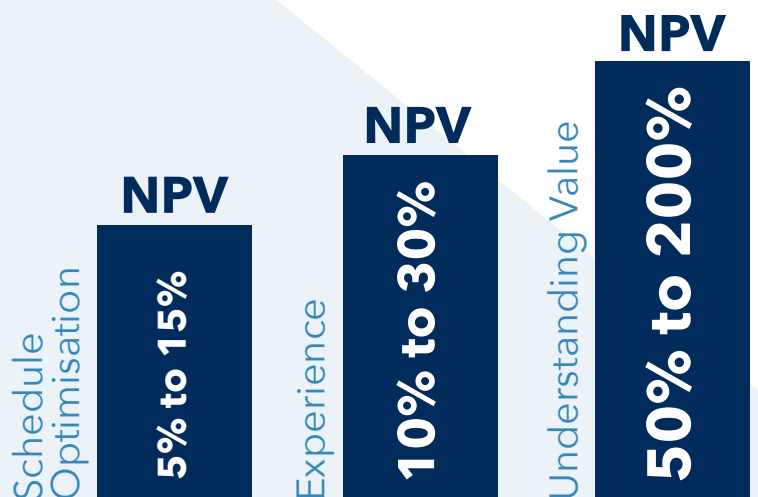
Optimal and Operational Medium term Mine plans to guide in a strategic manner the Medium Term Mine Planning Engineer.

SUITABLE FOR MOST MINING PROJECTS

15

Copper, Gold, Silver, Platinum, Uranium, Bauxite, Coal, Iron Ore, Diamonds, Nickel, Zinc, and Molybdenum.

CONSULTING

COMET Strategy offers an outclass combination of Software, Operational and Strategic Experience together with Value Understanding.

All of these together can make the difference of the success of any mining project:

NPV
Schedule Optimisation
5% to 15%

NPV
Experience
10% to 30%

NPV
Understanding Value
50% to 200%

Develop the Optimal Production Schedule of an Open Pit, Underground or combination of both, using our state of the art and worldwide recognised strategic mine planning COMET Optimal Scheduler.

Realise a large number of Sensitivity and Risk analysis using the flexibility and capability of COME Optimal Scheduler.

Create Audit reports for thirds parties (non-mining engineers) to confirm confidence and operability of a mining project.

Realise Peer Reviews and Due Diligence studies. Participating in independent reviews of investment proposals.

If you are already a COMET Optimal Scheduler user, we can help and assist you to get the most out of your software and asset.

R & D
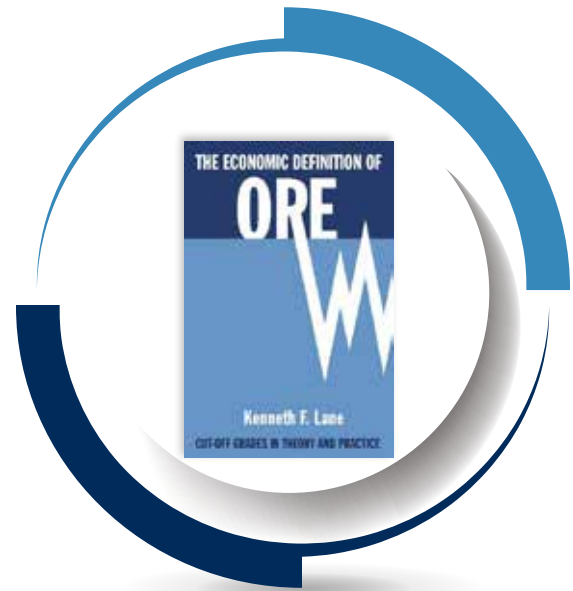## Research and Development

SOFTWARE DEVELOPMENT

When very particular complexities are to be modelled and optimised, COMET Strategy has all the capabilities and experience to create new 'Custom Functions' and software to tailor the model as close to real to the operation or project to be studied. The most famous Custom Functions or algorithms include:

• Fleet Replacement
• Grinding Adjustment
  (Grinding Versus Recoveries).
• Incremental Distance to Waste Dump
  (Waste Dump Optimiser).

GRADE ENGINEERING

COMET Strategy is currently working in collaboration and as a member with CRCORE on the Grade Engineering Program, with focus in Mine Planning Optimisation with Grade Engineering Techniques.
Grade Engineering Techniques include: Sensor Based Sorting (Bulk Sorting and Particle Sorting), Differential Blasting (Induced Deportment), Grade by Size (Natural Deportment), and Dense Media Separation (DMS). COMET Strategy is the first company with CRCORE to create a full optimisation to the Long Term Mine Plan of an operating mine with Grade Engineering Techniques. Please visit our website to download the technical paper.

KEN LANE'S BOOK

COMET Strategy bases a large part of its work, research and development, on Kenneth F. Lane's Cut-Off Grade theories. Lane's theories and work have been the base and foundation for Strategic Mine Planning worldwide for the last century. COMET Strategy has recently released the latest edition in two languages; English and Spanish.

COMET
AROUND THE WORLD

1	Coal	**4**	Gold	**7**	Bauxite
2	Diamond	**5**	Silver	**8**	Uranium
3	Copper	**6**	Iron Ore		COMET Offices

OUR CLIENTS

ANGLO AMERICAN   GLENCORE   CODELCO   ANTAMINA   COLLAHUASI   K

RioTinto   MMG   GrupoMexico   Teck   MRN Mineração Rio do Norte   Oyu Tolgoi

OUR PARTNERS

CRC ORE Optimising Resource Extraction   Deswik Delivering mining efficiency   METALICA