

MANAGING RISKS IN NEW TECHNOLOGY PROJECTS IN MINING, MINERAL PROCESSING, METALLURGICAL (MMM)

How to Improve the Probability of Financial Success in MMM Projects Involving New Technologies? We look at technology development and project execution strategies (e.g. Front-End-Loading), to ensure systematic development and execution of your projects.



MARK W. KENNEDY, DIRECTOR, PROCESS METALLURGY CONSULTING, NORWAY

FOREWORD

The natural outcome of new technology mega projects seems to be technological success, but financial failure.

All those who have 'failed' before us, were just as intelligent, educated and experienced as we are. The best way to avoid sharing their fate is to study their 'modes' of failure and improve our project management systems accordingly. In many ways it is easier to identify failings and hence learn from failure.

Mega-projects are so vast that no single human mind can encompass their complexity or predict the interactions between all the 'parts'. The only way to successfully manage such projects is through systems (e.g. Change Management, Hazop, Technology Risk Reviews) and lists, (e.g. Risk Registers).

Not only must we engage creative, intelligent and experienced people and forge integrated multi-disciplinary teams to be successful with large scale new technology projects; we must give them the time, resources and SYSTEMS they require to be successful.

Success at mega-projects and particularly those involving new technology, involve extensive Front-End-Loading, and careful development systematic and execution.



14th - 15th May 2012 (Monday - Tuesday) Hilton Sandton, Johannesburg, South Africa

OUR PANEL OF EXPERT FACILITATORS:



MR. MIKE SHAPIRO Senior Mechanical Engineer, Technology, SNC-Lavalin Pty Ltd, SA







MATT VAN WYK Lean and Continuous Improvement Expert

COURSE OBJECTIVE

Salvo Global - Mining Series enable Mining and Metallurgical Professionals:

- To understand issues related to implementation of new technologies, from complete plants to minor modifications of existing operations,
- Find proven solutions to the difficulties they encountered.

Participants will understand the places where new technology affects costs, schedules and production and achieve the ability to perform their own 5* assessment. Simply, this workshop shows you where and why you have a problem. It will help you use:

- the tools to determine how big it is
- the tools to manage the projects
- and suggest project changes to minimize risks

Participants will:



Learn to identify technical and technological risk and explore systematic methods of quantifying and controlling these project risks.



Review standard tools for the financial analysis of projects and obtain a New method of assessing technological risk with risk-weighted returns. This will prevent marginal projects from proceeding and allocate additional time and resources for sound projects to achieve the optimal level of front-end-loading (the level which returns the maximum risk weighted net present value).



Learn to track design criteria, build up high quality design criteria in a systematic way and assess or benchmark the quality.



Obtain a set of mathematical tools which enable engineers and financial professionals to establish a common level of understanding, leading to more accurate assessment for a new technology project to pass through its next level of approvals. And much more.

"MINING AND METALS COMPANIES THAT BEST MANAGE PROJECT **EXECUTION RISK WILL DERIVE GREAT COMPETITIVE ADVANTAGE."**

COURSE CUSTOMISATION TO YOUR PRIORITIES

Pre-Course Questionnaires will be issued to delegates immediately upon registration for them to address their specific needs and concerns. The trainer will discuss these needs at the masterclass.

INTRODUCTION:

Global demand for commodities is being sustained and accelerated by rapid economic development in BRIC countries. Strong demand continues to drive substantial capital investment within the sector and a large number of new mining projects, expansions and restarts have been announced.

The complexity of major capital projects in today's mining and metals landscape, particularly in isolated operating locations, make managing them more challenging and critical. The projects are often calling on the same limited resources for development.

Metallurgical and mining projects can consume a significant percentage of the cash flow, even of a global 'major' and require close management focus on budgets, schedules and execution. These issues alone, if managed poorly, can be the cause of dramatic losses in project value.

As a consequence, effective management and execution of major capital projects requires more systematic assessment, and control methods to be applied. Identifying and addressing risks surrounding the construction of mining projects is critical. Many miners have seen cost escalations that have forced them to defer, cancel or suffer the costs of project delays and/or overruns.

Some examples of this are the Ambatovy nickel project in Madagascar where costs were estimated to have risen from US\$3.3b to US\$5.5b, and the Karara iron ore project in Australia where costs increased by 20% due to cost escalations and scope change.

"Surging Costs Delay Sherritt [Madagascar Ambatovy Nickel] Project - By Brenda Bouw (Globe and Mail - June 13, 2011)" "New Cost Blowout at Karara Iron Ore Mine Hits Gindalbie - By Sarah-Jane Parker (The Australian - February 03, 2011)"

COURSE LEADER: Mark W. Kennedy, Director, Process Metallurgy Consulting, Norway



- Mark has worked on major (hundred million to billion dollar projects) through every project phase from invention, lab, pilot, demonstration, feasibility study, through basic, value and detailed engineering, construction, start-up, ramp-up and operations.
- This gives him an excellent perspective on new technology and its impact on 'normal' project engineering. He is also one of only a few engineers who have worked in research, production, brown field, green field and
- new technology projects. He is currently Research Fellow (PhD Candidate), Institute for Material Technology, Norwegian University of Science and Technology (NTNU), studying "Electromagnetically Enhanced Filtration of Liquid Aluminium.
- He is also owner of his own consulting company, Process Metallurgy Consulting. See www.metallurgy.no An experienced international specialist in first-of-a-kind metallurgical plants and commercialization of new technology, he presented at the 50th Anniversary of MetSoc's Annual Conference of Metallurgists (COM 2011), in Montreal, Quebec, Canada.

A fruitful 20 years in the metallurgical industry (nickel, ferro-nickel, zinc, copper, magnesium, aluminium and materials) in plant operations, project engineering and applied research has seen him in:
Elkem AS Research, Kristiansand, Norway, including work on the first-of-a-kind Elkem Solar silicon smelter, Carbothermic Aluminium and Spent Aluminium Potlining smelting projects.
Koniambo Project, Falconbridge Australia Pty. Ltd., Brisbane, Australia, as one of the owner's representatives on this first-of-a kind Ferro-Nickel (Fe-Ni) smelter.

- Kidd Technology, Falconbridge Ltd., Kidd Creek Metallurgical Division, Timmins, Ontario, Canada at the first commercial Mitsubishi copper smelter.
- Process Metallurgy Laboratory, Noranda Technology Centre (NTC), Pointe-Claire, Quebec, Canada, where he was one of the inventors of key technology for the Noranda Magnola magnesium process.

Companies which have benefitted from Mark's expertise include: Noranda / Falconbridge / Elkem AS / Alcoa / Elkem Solar AS / Elkem Bjølvefossen AS / Sintef / SNC-Lavalin / Norsk Titanium / Eramet Iron and Titanium

GLOBAL PRESENTER: Dr. Phillip J. Mackey, President of P.J. Mackey Technology Inc., Montréal, Canada



In 2010, Dr Philip J. Mackey was bestowed the highest honor, by TMS - The Minerals, Metals & Materials Society, the Honorary Class of Fellow, as recognition of his eminent authority and contribution to the broad field of metallurgy, with a strong consideration of outstanding service to the Society.

Citation: For the development of a new metallurgical process for the production of non-ferrous metals, long service to the metallurgical community and in particular for bridging copper metallurgists of the two Americas.

Phillip Mackey is President of P J Mackey Technology Inc. involved in consulting on metallurgical projects worldwide after many years associated with Xstrata working in all areas of non-ferrous metallurgy. He has over forty years of broad, in-depth experience and understanding of the non-ferrous metals business including operations and technology, in particular for nickel, copper and precious metals. He has authored or co-authored over 100 publications covering many aspects of non-ferrous metallurgy, including metallurgical history.

P.J. Mackey played a leading role in the development of the Noranda Process, the world's first commercial continuous copper smelting and converting process and one of the important copper technologies developed in the twentieth century. His role in introducing the Noranda Converter, a new continuous converting process, was recognized by the Noranda Technology Award given in 1998. He played key role in Copper Development Association activities and helped introduce the North American Initiative for Copper in Architecture to the copper industry in the 1990s. Dr. Mackey served as President of The Metallurgical Society of CIM from 1983 to 1985. He received a Special Medal of Honor by the CIM in 2007 for his role as co-founder of the now well-established Copper-Cobre conference series. He is a Fellow of both the CIM and TMS, and has received the Selwyn G. Blaylock Medal by CIM in 2010 for distinguished service to Canada through exceptional achievement in the field of metallurgy.

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Mr Mike Shapiro has over 30 years of experience in the water transport, applied heat and mass transfer, hydrometallurgical and pyrometallurgical industries. He has been involved in numerous projects ranging from equipment development, applied R&D, feasibility studies, project execution and commissioning. He is currently working at SNC-Lavalin as part of the technology group involved in the development and execution of pyrometallurgical projects.

Former experience in technology development and application includes

- Optimisation of cooling tower packing material
- Single Lever Rock Breaker
- High temperature feeder
- Trial and full scale modular furnace refractory lining copper cooling modules
- DC furnace process for zinc production from lead blast slag Pyrometallurgically produced Zinc refining processes
- Electrode seal for vacuum pyrometallurgical processes
- Pyrometallurgical test campaigns forming part of feasibility studies for ferronickel, ferrochrome, titania, and magnesium plants.

This experience provides a frame of reference for risk management and mitigation of projects which rely on the implantation of relatively new or untested technology for their success.

SNC-Lavalin Mining and Metallurgy is an international leader in consulting, design, engineering and construction of facilities for mineral processing including all infrastructure components required for remote project development. We have carried out over 350 projects worldwide in the fields of aluminum, copper, gold, zinc, and nickel including some of the largest projects ever undertaken in the industry.

SNC-Lavalin is the largest engineering and construction company in Canada and is among the top 5 Global Design firms in the world. In addition to offices in Čanada and the United States, it operates from strategically-located bases in Latin America, Africa, Asia, Europe, the Middle East, and Australia.

EXPERT PRESENTER: Mr. Gary Vermaak, Chief Financial Officer and Director of SD e'Africa Consulting



Chief Financial Officer and Director of SD e'Africa Consulting, which he co-founded in 2002 and consults to, and advises mining and energy companies on business optimisation and sustainable development. Director at Harambe Mineral Resources, a BEE company set up to develop power generation projects using

discard / low grade coal. Client CFO / Senior Business Partner at FD Solutions Africa, which provides contract, interim and part time

senior accounting and financial executives to energy and mining companies.

Gary is a Chartered Global Management Accountant and Chartered Secretary with extensive experience in finance, IT, projects and supply chain management in the mining industry. He has held a number of senior roles in large mining companies such as De Beers and Anglo American Platinum. He also worked for First Uranium and has worked in the junior sector as Chief Financial Officer of Minerva Resources plc (now Nyota Minerals Limited) in London. He has 15 years' experience in the mining industry and has also worked for Eskom (electricity sector) and Standard Bank in his career.

His interests include Mineral Economics and Project Portfolio Management - he co-presented a paper on "Project Portfolio Management as a Strategic Enabler for Growth in Anglo Platinum" at SAPhire 2007 in Vienna, Austria. He is co-developer of the Compass Financial Optimisation Methodology or CFO's Toolboox and has published articles on CFO South Africa.

EXPERT PRESENTER: Matt van Wyk, Lean and Continuous Improvement Expert



Matt van Wyk was associated with the Anglo American Corporation and De Beers for 21 years as a Metallurgical Engineer before deciding to dedicate his life full time to the field of systemic organisational transformation. His broad experience spanned Operational and Strategic Portfolio Management across a number of mining commodities, before venturing into the Business Optimisation space at the end of 2003.

During the last 8 years of his career Matt designed and successfully deployed a Lean Transformation programme across De Beers' South African operations which yielded significant value to the organisation. The effort attracted the top corporate honours from Productivity SA in 2008 at the 15th World Productivity Congress.

After completing the MSc Lean Operations degree through LERC at the end of 2010 with distinction, Matt has ventured into the consulting space and is currently coaching a number of large organisations across South Africa on their Lean transformation journeys.

COURSE METHOD

An interactive mix of lecture, case studies, spreadsheets, templates, group discussions and activities will be used to illustrate and apply a systematic Technological Risk Assessment tools and techniques. Delegates are encouraged to bring along a notebook with them to the course.

SPONSORSHIP

Exclusive marketing opportunities are available. If you want to leverage on this event to heighten the profiles of your company, and your company's products and services: Contact Felicia at: Tel: +65 6297 8545 e-mail: sponsorship@salvoglobal.com

Fax: +65 6297 8645

COURSE OVERVIEW:

- Mining and metallurgy projects are growing in size and capital cost over time, in an effort to achieve ever greater economies of scale.
- These projects carry proportionately larger financial risks for the companies which execute them.
- Ore bodies are becoming increasingly complex, lower grade ore being found in more isolated locations, which significantly increase operating challenges and project risk.
- The need to deliver value, combined with the rapid pace of technological progress, often leads to the incorporation of new technology.
- In many cases, key technology project decisions are made without a full appreciation of the technological risks being added to the already appreciable technical risks inherent in MMM projects.
- Decisions are sometimes taken in the absence of a proper technological risk assessment to determine if the new technology comes with sufficient financial benefit, to warrant accepting the added project risks.
- Extremely novel projects working with solid materials have a poor track record of achieving their overall financial targets, as they incorporate large technological risks in addition to normal project risks.
- Technical risks exist in mining and metallurgical projects even in the absence of 'new technology'.
- Technical and technological risks are similar. They overlap, interact and often compound each other's effects.
- Technical risk is defined in this course as the risk that the designed equipment is not fit for purpose, due to project specific issues, such as size or composition of ore, project location or selection of inexperienced suppliers.
- Technological risk can be present in the form of new processes or products, scaled-up equipment designs, first of a kind prototypes, or completely new technology.
- Traditional project management tools focus on risk from concept development through implementation, but typically fail to address the additional risks associated with a new technology project including schedule slip, capital cost growth, slow start-up and ramp-up, failure to achieve design performance (quality or throughput), and potential safety issues due to inexperience with novel equipment or processes.
- These additional risks affect the magnitude of the future cash flows produced by the project and hence its value, typically measured as net present value (NPV) or internal rate of return (IRR).
- Common accounting practice is to reduce the present value of future cash flows by applying a chosen discount rate, often reflecting the corporation's cost of capital.
- This discount rate does not contain an allowance for technological risk, which is often underestimated or misunderstood by both the financial and engineering project managers.
- There appears to be a strong motivation to develop a standard method of incorporating risk or probability into project financial analyses.
- This methodology will be equally applicable to technological risk associated with the adoption of new technology, as well as the usual technical risk which exists within every project, such as the accuracy of the mine modelling from drill core or the degree that bulk samples are representative of the ore and concentrator/metallurgical plant feed.

DISCUSSION POINTS:

Defining Technical and Technological Risks in Mining, Mineral Processing and Metallurgical Projects. Typical Impacts of New Technology and Technical Risk on Project Performance (Schedule Slip, Cost Growth, Slow Startup, Ramp-up, Failure to Achieve Design Performance, etc.). An Introduction to Some Standard Project Management Tools (FEL, Six Sigma, Risk Registers, etc.).



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- How to Use Project Management Tools to Address the Additional Risks Associated with a New Technology Project (Schedule Slip, Capital Cost Growth, Slow Start-up and Ramp-up, Failure to Achieve Design Performance - Quality or Throughput), and Potential Safety Issues due to Inexperience with Novel Equipment or Processes?
- Methods to Conduct a Systematic Technological Risk Assessment to Identify and 'Quantify' the Technological as well as Technical Risks in MMM Projects, i.e. How to Turn Unknown-Unknowns into Known-Unknowns, which can then be Managed?



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Introduction of Basic Project Financial Analysis Tools: How to Calculate Internal Rate of Return (IRR), Discounted Cash Flow, and Net Present Value (NPV) of a 'Normal' Project?

Use of Risk Weighted Cash Flow as a Means of Incorporating Project Risk and Probability into Project Financial Analyses, i.e. How to Address Technological Risk in the Form of Risk-Weighted Returns in Financial Calculations?



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Group Discussion:

In a mining project are technology risks or technical risks of greater importance? Is it the variability in the feed or the introduction of new technology which introduces the most uncertainty in outcomes?

Group Discussion:

Is it better to use local contractors and engineering firms who are more familiar with your country or large international firms with extensive resources and broad based experience in the mining industry?

WHO SHOULD ATTEND?

This course is targeted at project controls professionals handling complex projects within the following industries: Mining, Mineral Processing and Metallurgy.

Job titles include:

Head of Mining, Head of Metallurgical Dept., Head of Mineral Processing, Head of Plant, Chief of Mining Development, Head of technology, Head of R&D, VP Mining & Project, Group Metallurgical Manager, Business Improvement Specialist, Project Director, Technical Metallurgist, Technology Project Manager, Technical and Capital Projects Executive, General Manager of a Mine, General Manager - Technical Services & Special Projects, Manager of New Technologies

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DAY 1: 14TH MAY 2012

08:00 Registration

08:30 Introduction and Welcome Speech

08:35 Opening Plenary Session:

Start-up and Early Performance of New Mining and Metallurgical Projects: A Case Study Analysis

Dr. Phillip J. Mackey, President of P.J. Technology Inc., Kirkland, Quebec, Canada

09:25 Keynote Presentation:

Technical and Technology Risks Impacting Mining, Mineral Processing and Metallurgical (MMM) Projects Performance

Mark Kennedy, Director, Process Metallurgy Consulting, Norway

Mark will explore some of the sources of technical and technological risk in the context of Mining, Mineral Processing and Metallurgical (MMM) projects and their impact on project performance. He will focus more on technology/technical differences, Ed. Merrow's work and how the nature of the feed is a key driver of uncertainty in MMM projects.

10:10

10:30

Refreshment Break

GROUP DISCUSSION:

In a mining project are technology risks or technical risks of greater importance? Is it the variability in the feed or the introduction of new technology which introduces the most uncertainty in outcomes?



Project Management Tools in a New Technology Project Environment Part I

We will introduce generic project and risk management tools and discuss their application to MMM projects. Your expert facilitator will present and discuss best practices, various types of systems and project management tools for your Technology Project.

Your Expert Presenter:

Mr. Mike Shapiro, Senior Mechanical Engineer, Technology, SNC-Lavalin Pty Ltd, SA

• FEL (Front-End-Loading)

Front-end-loading or front end engineering design ensures that sufficient effort is expended at an early project phase where the ability to impact a project is at the maximum and the cost of changes is at a minimum. When New Technology is used in a project, enhanced levels of FEL are required at earlier phases in the project areas containing the new technology. This ensures acceptable levels of risk are present in all project areas.

• Gated Project Management Systems (e.g. Stage-Gate) Projects are controlled through a series of stages or gates,

where go/no-go decisions can be made based upon fixed criteria established by the company:

 Idea or concept 	- Pilot
- Technical Assessment	- Demonstration
(theoretical)	 Prefeasibility
- Detailed Investigation	- Feasibility
(laboratory/practical)	- Execution

• Overview of Project Risk Management Tools:

Risk analysis, risk registers, mitigation strategies, Hazard identification studies, HAZOP, FMECA.

12:30 Lunch



Project Management Tools in a New Technology Project Environment Part II

Your Expert Presenter:

Matt van Wyk, Lean and Continuous Improvement Expert

Six Sigma and Design for Six Sigma

For mining companies, Six Sigma can be used to identify critical to satisfaction parameters, establish control targets and control processes to minimize defects. It can improve the overall achievement of quality by an organization through the promotion of systematic work practices. Six Sigma uses a standardized methodology to improve business processes, including quality management and statistical measures.

For our Six Sigma context, we are discussing engineering as a process and the plant's need to produce on spec, ramp up to design, on time, etc. This should apply even to a mine. The mine plan has to produce on spec feed, its equipment has to be fit for purpose and so on. Many companies operating in the MMM industries have customized the standard Six Sigma system for greater applicability to industries other than manufacturing.

<u>Critical to Quality or Critical to Success:</u>

Attributes most important to the customer, i.e. the owner of the project. In a project environment, this includes: safety targets, environmental emissions, maintenance of reputation, and achievement of key project targets: schedule, ramp-up rate, quality, throughput, capital and operating costs, etc.

• Defect:

Failing to deliver what the customer wants, e.g. not achieving a Project that is on time, on budget, reaching the project's stated financial, environmental, safety, quality and cost objectives.

Process Capability:

What your process can deliver.

<u>Variation:</u>

What the customer sees and feels, e.g. deviation from the agreed project goals and objectives.

• <u>Consistent Project Execution and/or Stable Operations:</u> Ensuring consistent, predictable processes to improve what the customer sees and feels.

• Design for Six Sigma:

Designing the process with focus on the most critical needs of the customer, to ensure it has the required process capability.

14:45 Refreshment Break



Practical Group Assignment: Risk Identification and Stage Gate Criteria

Your Expert Presenter:

Dr. Phillip J. Mackey, President of P.J. Technology Inc., Kirkland, Quebec, Canada

A generic example of an MMM project containing substantial new technological, and other risks will be presented.

Participants will be assigned to work groups to answer a series of questions. Using the project information provided and their own experiences, each group will:

- identify what risks they deem to be present, and
- sort them in order of criticality to the projects success.
- Review a generic list of gates and criteria and modify them with extra items required to ensure the identified risks are adequately controlled at each decision point.

16:15 Presentation:

Each group will select a spokesperson to present their results. The best overall concepts will be collated and summarized by the facilitator and results given back to the teams.

End of Day 1

(Cocktail - By Sponsor - To be confirmed)

17:00

DAY 2: 15TH MAY 2012



Special Methods to Identify and Control Risks in a New Technology Environment

Your Expert Presenter:

Mark Kennedy, Director, Process Metallurgy Consulting, Norway

Mark will discuss the special methods needed to identify

- and control risks in a new technology environment:
 Technological risk reviews, including design criteria guality control methods,
 - Design and scale up methodologies, e.g. DMAIC (Designmeasure-analyze-implement-control),
 - Project execution strategy (Use of technology and engineering partners rather than turn-key). Design a strategy targeted for success! Guarantees only apply after you have failed! Use your owner's engineers first and your lawyers last.
 - **Project scheduling** to minimize technological risk, early project stages are cheap to repeat!
 - Flowsheet modifications to reduce the consequences of technological risk and increase ramp-up, and
 - Unknown-Unknowns and their impact on safety.

10:10 Refreshment Break

10:30

GROUP DISCUSSION:

Is it better to use local contractors and engineering firms who are more familiar with your country or large international firms with extensive resources and broad based experience in the mining industry?

11:00 Basic Project Financial Analysis Tools: How to Calculate Internal Rate of Return (IRR), Discounted Cash Flow, and Net Present Value (NPV) of a 'Normal' Project?

Your Expert Presenter:

Mr. Gary Vermaak, Chief Financial Officer and Director of SD e'Africa Consulting

Individual Practical Assignment:



Your Expert Presenter:

Mr. Gary Vermaak, Chief Financial Officer and Director of SD e'Africa Consulting



13:30

Group Practical Assignment:

Your Expert Presenter:

Mr. Gary Vermaak, Chief Financial Officer and Director of SD e'Africa Consulting

For a generic project given the schedule of capital expenditures, operating costs, production ramp up and prices, calculate a Net Present Value and Internal Rate of Return.

14:30 Discussion of Numerical Assignments with Q & A

Your Expert Presenter:

Mr. Gary Vermaak, Chief Financial Officer and Director of SD e'Africa Consulting

15:00 Introducing the theory for Risk Weighted Discounted Cash Flow

Your Expert Presenter:

Mark Kennedy, Director, Process Metallurgy Consulting, Norway

Methods to apply risk weighting in financial analysis of projects. Mark will present both the discount rate method and risk weighted cash flow method.



0 Refreshment Break



Practical Group Assignment:

Overall Assessment of Project Risk using New Mathematical and Decision Making Techniques

Your Expert Presenter:

Mark Kennedy, Director, Process Metallurgy Consulting, Norway

A generic project, including timeline will be presented and the work groups will be asked to give their overall assessment of the level of project risk.

Participants are required to practice the new mathematical and decision making techniques discussed in the lectures in hands-on working group sessions. Using this level of project risk, they will be asked to use the Schedule, Capital, and Operating Costs to estimate:

- Risk Weighted Net Present Value
- Internal Rate of Return

The groups will then be asked to 'optimize' the project with the lowest project impact and present their opinion of the likely change to the project value.

16:30 Presentation:

Each group will select a spokesperson to present their results. The best overall concepts will be collated and summarized by the facilitator and results given back to the teams (by email).

17:00 Closing Address:

Your Expert Presenter: Dr. Phillip J. Mackey, President of P.J. Technology Inc., Kirkland, Quebec, Canada

17:00

End of Day 2 and Seminar

Next locations are in Australia and Singapore.

WHY NOT BRING THIS TRAINING INTERNALLY?

This training can be customised into an In-house training program just for your organisation. To find out more, please contact Felicia at: Tel: +65 6297 8545

e-mail: internaltraining@salvoglobal.com

ABOUT OUR ORGANIZATION

Salvo Global is a Singapore based Business Intelligence company with a rich 6-year history of producing high quality, industry specific B2B conferences and training programs

CERTIFICATE OF COMPLETION



A Certificate of Completion will be issued to all delegates completing minimum of 90% of the total hours of the course.

Calculate a