

# Investors Expectations from Consultants



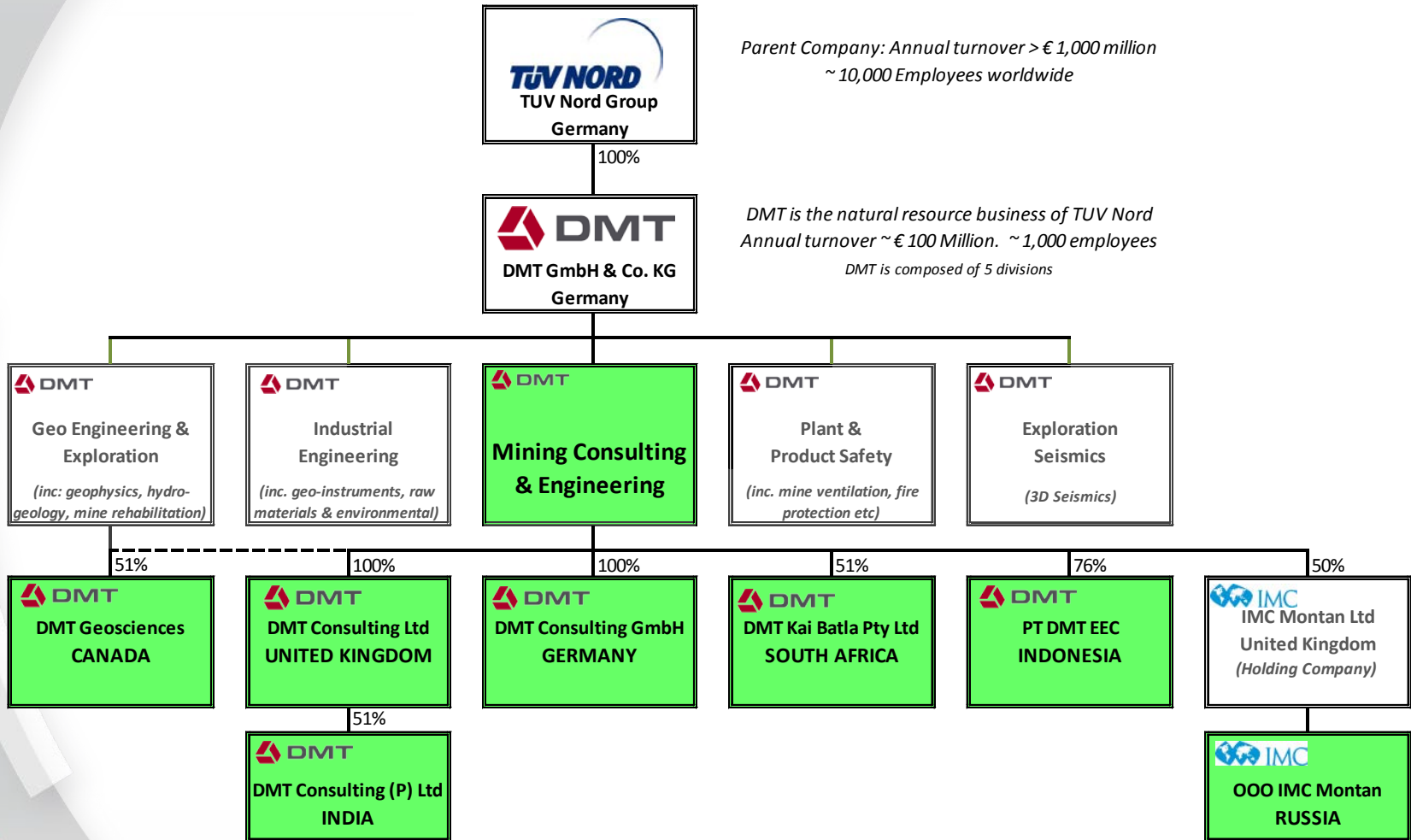
## CRIRSCO ANNUAL MEET 2016 JAIPUR

Presentation by  
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**DMT Consulting Pvt. Ltd.**

# DMT - Corporate structure



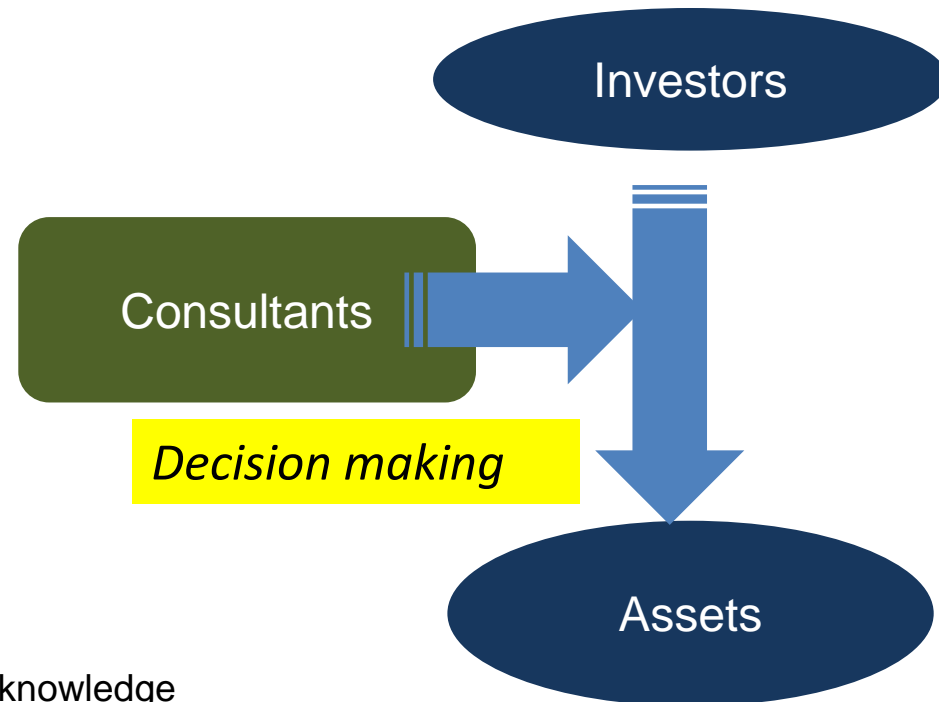
# Why do Investors use a Consultant?

## ■ What for?

- Resource and Reserves Technical Reports
- Technical and economic studies
- M & A involving Mineral Assets
- Investing in new region or commodity
- Vertical Integration – industrials entering raw materials extraction
- As a requirement for raising debt/equity
- IPO

## ■ Why?

- Lack of technical, regional or commodity knowledge
- Unbiased/independent analysis and opinion
- Increased confidence in decision making
- Fresh eye, a new perspective
- Regulatory requirement – e.g. NI43-101, Competent Person Report
- Someone to blame!



# Expectations from Consultants

## ■ Qualifications

- Independent/Unbiased/Honest
- Technically equipped, up to date and experienced in the region & commodity
- Full coverage of project discipline areas
- Broad international experience
- Responsive to Client expectations – not least – “can you start yesterday and finish by today?”

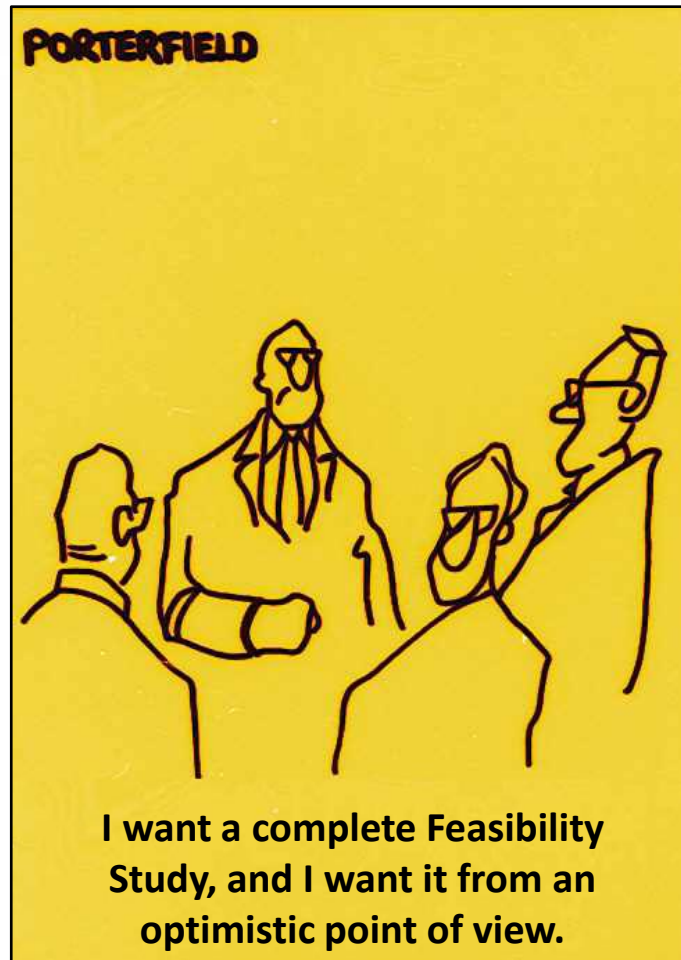
## ■ Deliverables

- Meet clients specific objectives – clear scope and mutual understanding needed
- Understandable outputs and clear and unbiased opinion
- Point out fatal flaws, red flags, risks and potential pitfalls
- Hand holding to assist decision making
- Possibly offer different options that make more business sense including “don’t invest”
- Exit strategy in the case of a distressed asset

# Reasons for Poor Return on Investment

- Here's just a few:
  - Not understanding the deposit/resource
  - No social licence to operate
  - Completion of construction & commercial production later than promised
  - Pre-production capital expenditure often exceeded => delays, maybe resulting an additional raising of debt and finance & bond or repayment defaults
  - Production ramp-up is slower than projected
  - Failure to achieve full production expectations – any combination of - less production tonnes, less grade, less recovery => less product tonnes, less revenue
  - Mine operating and processing operating costs higher than expected => cash costs higher than promised
  - Permitting is delayed due to governmental problems
- All meaning that return to investors may be way down on expectations

# Reasons for Poor Return on Investment

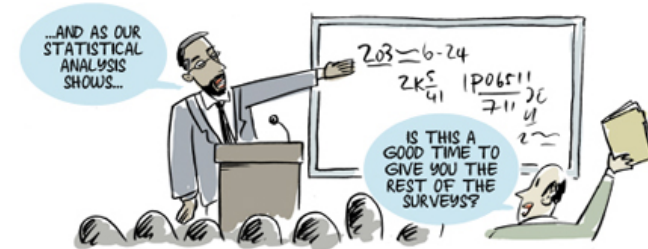


# Mineral Resource and Mineral Reserve Reporting

- Why compliance to international codes is important?
  - Company's mineral resources and ore reserves are its most significant asset
  - Allows benchmarking to similar projects
  - Supports property valuation
  - Public disclosure rules in most western jurisdictions require compliance
  - Investors and Lenders expect to see a mineral R & R reported to a recognisable standard
  - Underpins life of mine plan
  - Supports estimates of future revenues for the Company

# Understanding the Deposit

- Quality of the base data
  - Insufficient or poor exploration data
  - Basic fieldwork
  - Insufficient, sampling, analysis and interrogation of the exploration data
  - Inappropriate density measurements – bulk vs. specific density
- Understanding of geological controls of the mineralisation – “dot to dot” modelling
- Desk top modelling & over-reliance on computer algorithms – GIGO is absolutely true for deposit and resource modelling
- Reported to an international code?





# Understanding the Project

- Study quality – who did the work?
- Study Accuracy
  - Applies to all assumptions and estimates – impacts the cashflow bottom line and NPV
- Capital estimates - never perfect
  - Mining industry has a poor history with cost overruns averaging 20-25% and even higher.
  - Capitals costs are usually quoted in studies as plus or minus accuracy but its almost never minus
  - “Optimisation” often means the initial capital cost is too high – watch out for missing costs

# Investor Issues

## ■ Owner Project teams

- Too small and/or overly confident self-belief
- Two types of teams are needed – operators and constructors. Often a lack of one or other
- Shortage of experienced people = inexperience in project development and eventually in operations

## ■ Insufficient Engineering

- Owners in too much of hurry to get to basic engineering
- ACE - Class 3 estimate is generally accepted as the feasibility level - but engineering may be no better than 10% completed.
- More engineering usually means better cost definition

# Investor Issues

- Metallurgical Testwork
  - Are the testwork samples representative – not just of the in-situ mineral but of the run-of-mine ore?
  - Metallurgical testwork costs money and time – frequently insufficient sampling to support the flowsheet and metallurgical response, recoveries and product quality
- Dilution & production rate
  - Most commonly optimistic linked parameters used in studies or quoted on operations
  - Dilution - constantly under-estimated, Production - constantly over estimated.

# Investors Issues

- Dilution & production rate (2)
  - Dilution depends on mining method and production rate e.g. For longhole stoping method – 10 – 12% is optimistic. More likely 15 – 20% in practise. For caving methods it can be greater than 25%
  - Production rate – greater than 50 vertical metres underground or 8 -10 benches in a pit suggests dilution may be a problem
- Production
  - Right method for the deposit?
  - Enough workplaces for flexibility
  - Unrealistic ramp up – pressure to improve start-up economics

# Mineral Resource and Mineral Reserve Reporting

- Fatal flaw
  - Iron project in Guinea. Government expectations were for largescale rail infrastructure improvements. Project study and evaluation was based on very limited rail infrastructure and through another country. No possibility of Governmental approval => no project
- Failure to listen
  - A company (not new to mining) invested in a project, where only an Inferred Resource could be classified. DMT recommendation was to carry out drilling of a few confirmatory boreholes. Pressure from concession owners pushed the investor to invest. Later, Mineral Resource could not be validated and investment turned out to be bad
- Failure to Wait
  - An industrial company, entering mining for the first time, decided and partially invested in an asset due to family relationship between owner of asset and investor. DMT validation/due diligence identified that no economic resource existed. Investor did pull out - but at a late stage
- Success Story!
  - Company new to mining in a fluorite deposit in Morocco, worked with DMT for more than a year before making investment decision – work involved initial due diligence, validation drilling, detailed exploration, PFS and FS, securing funds from Banks for investment – mine is in operation

# THANKS FOR YOUR ATTENTION

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