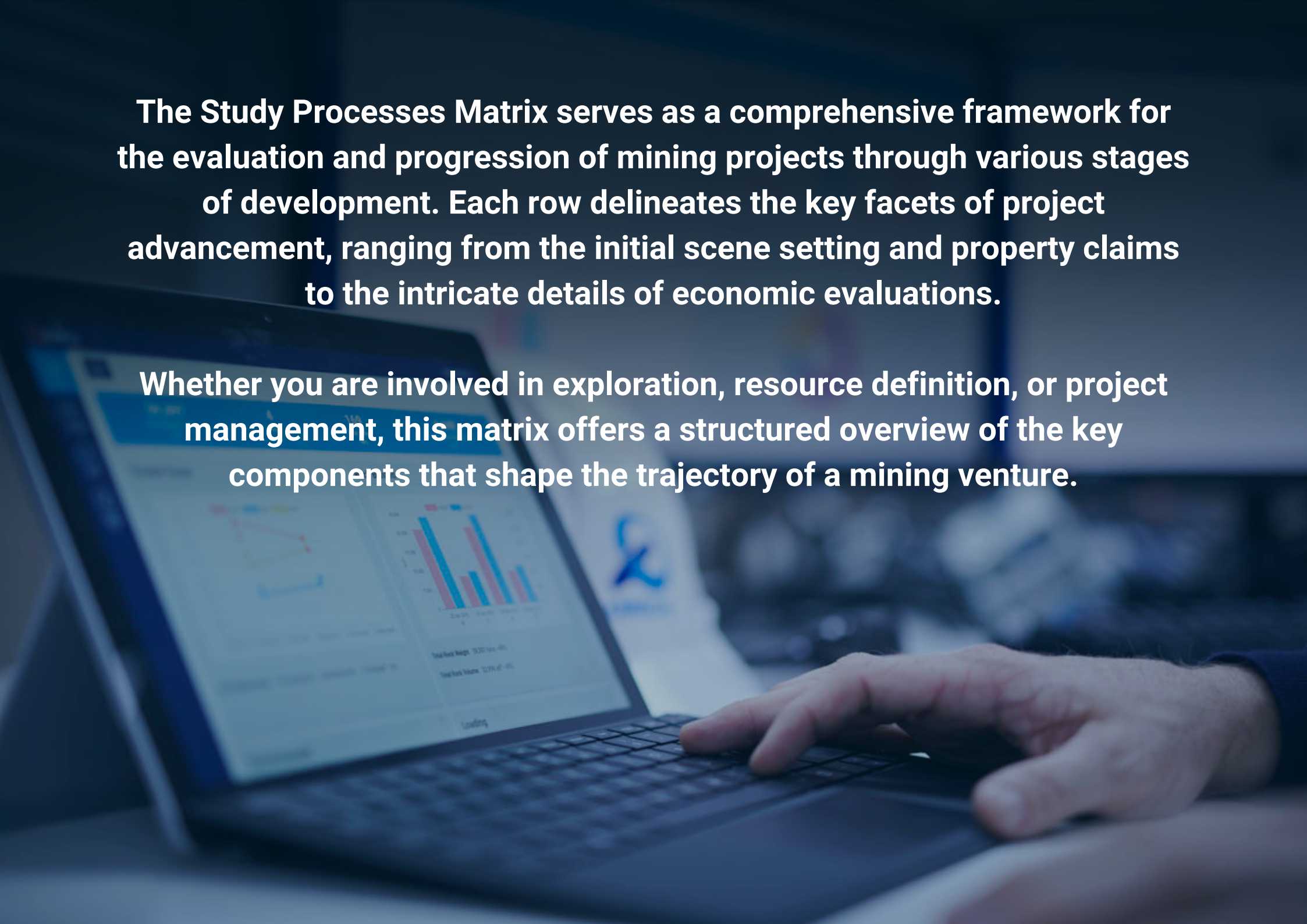
AusIMM Courses

Study Processes Matrix

RESOURCE



The Study Processes Matrix serves as a comprehensive framework for the evaluation and progression of mining projects through various stages of development. Each row delineates the key facets of project advancement, ranging from the initial scene setting and property claims to the intricate details of economic evaluations.

Whether you are involved in exploration, resource definition, or project management, this matrix offers a structured overview of the key components that shape the trajectory of a mining venture.

	SCOPING STUDY	PRE-FEASIBILITY STUDY (PFS)	FEASIBILITY STUDY (FS)
INTRODUCTION	Scene setting/basis for study. Basic maps and property claims.	Scene setting/basis for study. Preliminary maps and property claims.	Scene setting/basis for study. Detailed maps and property claims.
ENVIRONMENT, SOCIAL AND PERMITTING	Conceptual. Permitting pathway and requirements defined. Reference to international, national requirements.	Data collection, monitoring program to international, national requirements.	Detailed and ongoing, ESIA, permitting to international, national requirements.
DEPOSIT DEFINITION	Limited drilling, sampling and assaying.	Preliminary drilling, sampling and assaying.	Defined/extensive drilling, sampling and assaying.
RESOURCES AND RESERVES	Predominantly Inferred Resources. Reserves not reported.	Predominantly Indicated Resources. Typically Probable Reserves.	Indicated and Measured Resources. Probable and Proved Reserves.
MINING (Open pit / Underground / Other)	Assumptions. Simplified designs.	Methodology identified. General equipment selection. Preliminary mine design.	Methodology selected. Mine planning optimised. Equipment selected. Geotechnical investigations.
METALLURGY (Sampling / Test work)	Limited definition of geometallurgy. Process benchmarking to inform to recovery and throughput.	Preliminary geometallurgy definition. Preliminary ore characterisation, bench scale test work, trade-off studies.	Detailed geometallurgy definition. Sample selection across major and minor domains. Detailed variability test work. Piloting for novel flowsheets. Confirmed recovery and throughput.
ENGINEERING	Preliminary processing plant flowsheet. Estimates, assumptions. <5% discipline engineering.	Processing plant flowsheet options assessed. Preliminary engineering methods. Preliminary studies, power and water identified. 5–25% engineering.	Detailed processing plant flowsheet, pre-Engineering Design. Power and water confirmed. 20–50% engineering.
PROJECT DEVELOPMENT PLAN	General, estimates based on assumptions.	Preliminary.	Detailed.
CAPITAL COST ESTIMATE	Accuracy -25%+50%, Contingency ±30%	Accuracy -15%+25%, Contingency 15–30%	Accuracy -10%+15%, Contingency 10–15%
OPERATING COST ESTIMATE	Accuracy -25%+50%, Contingency ±25%	Accuracy -15%+25%, Contingency ±15%	Accuracy -10%+15%, Contingency ±10%
ECONOMIC EVALUATION	Assessment, budget quotes, simple analysis.	Preliminary analysis.	Detailed assessment and analysis.
RISK	General overview.	Fatal flaw, risk workshop.	Fatal flaw, risk workshop, simulations.

Explore the multi-disciplinary components of studies, between exploration and operations

MODULE 1

Introduction, Environment, Social and Permitting

MODULE 2

Geology, Mining and Metallurgy

MODULE 3

Engineering Requirements, Forward Work Plans and Study Process Controls

MODULE 4

The Business Case (and wrap-up)

Study Processes for Resource Projects

Explore the multi-disciplinary components of studies, between exploration and operations

Over 5 weeks, in an online community-based environment, you will:

- **Investigate the role and components of study processes.**
- **Examine actions needed to ensure the quality of studies.**
- **Establish a framework for pursuing the right tasks at the right time.**
- **Learn the essential steps for presenting information in a compelling manner.**

Enrol now