

Opportunities for Queensland businesses in India's METS market

TIQ international market report

July 2018



Contents

Executive summary	5
1 Introduction	8
2 Queensland's METS sector	8
3 India profile	10
3.1 India at a glance	10
3.2 Economy	10
3.3 Key economic initiatives	11
4 India's mining sector	12
5 Queensland METS opportunities in India	16
6 Indian market access and business environment	20
6.1 Entry options	20
6.2 Funding	21
6.3 Business environment	21
6.3.1 Sovereign risk	21
6.3.2 Ease of doing business	21
6.3.3 Corruption and bribery	21
6.3.4 Intellectual property protection	22
6.3.5 Repatriation of capital by a company	22
6.3.6 Indian market regulations (mining sector)	23
6.3.7 Culture and business practices	23
7 References	25
8 Sources for figures	27
» Appendix 1: MDOs	28
• References for Appendix 1	30
» Appendix 2: Mining industry background	31
• Coal block allocation	31
• METS regulations	33
• References for Appendix 2	33
» <i>Figures</i>	
• Figure 1: Queensland METS clusters of expertise	9
• Figure 2: India compared to other emerging markets	10
• Figure 3: Indian business culture and practices	24
» <i>Tables</i>	
• Table 1: Mine-developer-cum-operator (MDO) route advantages and challenges	14
• Table 2: Key opportunities for the Queensland METS sector	17



Executive summary

Background

Queensland is home to more than 800 mining equipment, technology and services (METS) companies, which provide innovative, technologically advanced and/or distinctive goods and services to the mining industry.

India is characterised by its huge land mass (3.3 million sq.km), population (1.3 billion people) and GDP growth (a predicted 7.4% for 2017–18). India's economy is the world's fastest growing, a title it is predicted to retain until 2020. To assist economic growth, the Indian Government has invested in infrastructure, universal energy access and power-sector revival, and skill and entrepreneurship development. It has also put in place the Make in India and Ease of Doing Business initiatives.

India represents a large potential market for Queensland METS companies.

The Indian mining sector

The Indian mining sector is concentrated among a few public-sector companies, which account for approximately 90% of domestic production. The major coal producer is Coal India Limited (CIL). Other key state-owned enterprises include Singareni Collieries Company Limited (SCCL), the Steel Authority of India Limited (SAIL), Hindustan Copper Limited, Manganese Aluminium Company Limited, NMDC Limited and Neyveli Lignite Limited. Private-sector companies include Tata Steel, Vedanta, Aditya Birla Group and Jindal (India) Limited.

The mine-developer-cum-operator (MDO) model is increasingly popular in India. Key companies dominating this sector include Essel Mining and Industries Limited (EMIL), Thriveni Earthmovers, Sainik Mining and Allied Services, AMR India Limited, NCC Limited, Monte Carlo Limited, JSW Energy, JMS Mining Services Pty Limited, Gulf Oil India Limited and Adani Enterprises. See Appendix 1 for more details of each.

Challenges and opportunities for Queensland METS companies

Queensland's METS opportunities in India are influenced by key challenges in the Indian mining sector, such as:

- » coal quality
- » thermal power plant inefficiencies
- » coal transport infrastructure
- » environmental impacts
- » skilled labour requirements.

Opportunities for Queensland METS companies can be categorised into:

- » products and services relating to environmental protection
- » safety
- » washeries and beneficiation
- » operational and consultancy
- » equipment and maintenance
- » training
- » IT services.

Strategies for entering the Indian market

To secure Indian market access, it is recommended that Queensland companies establish a presence in the Indian market, and/or appoint a local agent, partner or distributor.

Entry options can be grouped into two main sub-categories:

- » operating as an Indian company (via the wholly owned subsidiary, joint venture or limited liability partnership routes) or
- » operating as a foreign company (via the liaison office, project office or branch office routes).

Business environment

Price sensitivity is a notable characteristic of the Indian market, and establishing a manufacturing base to reduce costs is a popular way around this. In terms of distribution channels, direct procurement of sophisticated technology requirements through general or limited tenders is endorsed.

Funding options include equity share capital, preference share capital, debentures and borrowings, external commercial borrowings, American depository receipts, global depository receipts, foreign currency convertible bonds, and the listing of debentures to raise funds.

The most common business risks relate to corruption, bribery and intellectual property protection. Foreign capital invested in India is generally allowed to be repatriated, and companies are also able to repatriate funds to their shareholders without limit by way of capital-reduction measure; however, this process is court-driven.

Indian market regulations can be grouped into three categories: import restrictions, restrictions affecting coal block allocations, and METS regulations. There are no quantitative import restrictions for METS, and import duties are nominal for capital goods and apply equally to products from various international sources.

In terms of restrictions affecting coal block allocations (a detailed overview of which can be found in Appendix 2), 2014 is a key year, when the majority of India's coal block allocations were cancelled following the Supreme Court of India declaring the former method of allocation illegal and arbitrary. Currently, approval is required from the Directorate General of Mines Safety for any underground application of mining equipment, and participation by the private sector is allowed in coal washeries and across mining sectors, with the exception of coal mining and atomic minerals.

Appendix 2 also contains more detailed information regarding METS regulations. In summary, only captive mining is currently allowed by private companies, but the Indian Government's ambitious target for 1.5 billion tonnes of domestic coal production by FY 2020 creates increasing opportunities for private companies (and the international sector, including Queensland METS companies) to participate in contract mining via the MDO route.

Culture and business practices

India's culture and business practices are diverse and defined by four key features:

- » hierarchy (influencing decision-making and management styles)
- » relationships (stressing the importance of networking in informal settings and building rapport)
- » respect (shown in punctuality, attire, negotiating, saving face and how colleagues are addressed)
- » time and scheduling.

All of these elements influence how meetings are conducted, and successful business in India requires respect for each of them.



1. Introduction

India's mining sector has been described as a 'success story in waiting' for decades.

Given the Indian Government's ambitious new production targets for the mining sector, many market opportunities exist for Australian companies offering innovative, cost-effective mining equipment, technology and services (METS).¹ In addition, a strong strategic partnership already exists between Australia and India, fostered through political, economic and community ties.²

As well as being the second largest English-speaking country after the USA³ (due to its British colonial past),⁴ India is the world's second most populous country, containing roughly one-sixth of the world's total population.⁵ India is also Asia's second largest energy consumer, with a rapid increase in consumption levels predicted to continue up to 2035.⁶

This level of energy consumption has a direct impact on the mining sector, given that mineral resources are the backbone of infrastructure development, opening up numerous business opportunities for the Queensland METS sector.⁶

2. Queensland's METS sector

Queensland's METS sector comprises companies that provide innovative, technologically advanced and/or distinctive goods and services to the mining industry.⁷

The METS sector encompasses the following:

- » mining equipment: includes manufactured items (plant, machinery, equipment) that contribute to the capital stock of the mining industry; parts for machinery and equipment; industry-specific supplies such as chemicals and explosives (ie excluding multi-purpose generic supplies such as food, fuel and furniture); and construction and civil engineering⁷
- » mining technology: includes engineering design; information and communications technology (eg data analytics, real-time monitoring and sensors); and scientific research into geoscience, mine engineering, mineral processing or other mining industries⁷
- » mining services: includes applied sciences such as laboratory work, environmental sciences, geospatial data processing; equipment maintenance and repairs; specialised mining consulting; and transportation.⁷

Queensland has more than 800 METS companies, a larger number than any other state in Australia.⁸

The Queensland Government has developed a roadmap and action plan to support and advance this significant sector. The roadmap identifies Queensland's METS clusters of expertise, which are illustrated in **Figure 1**.

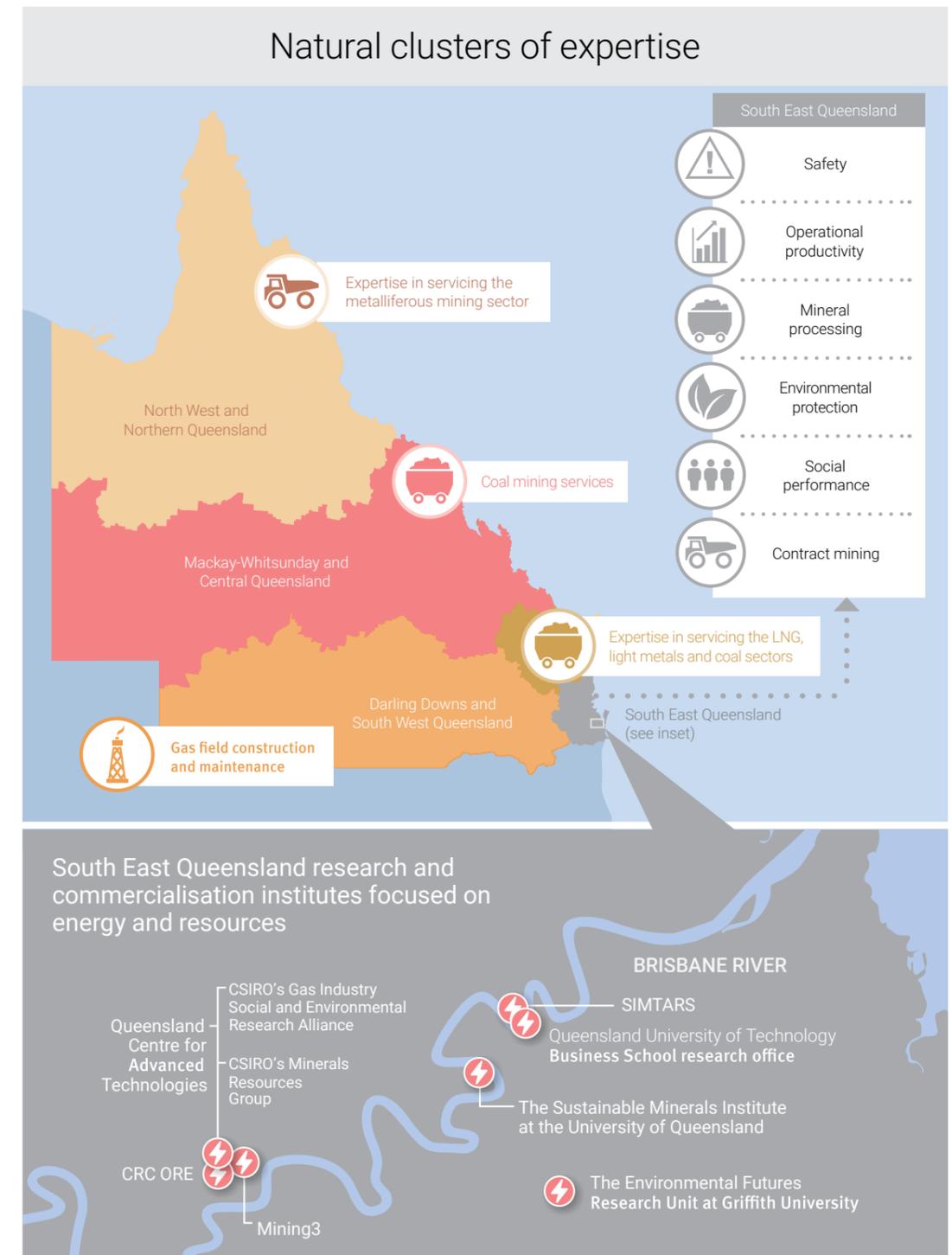


Figure 1: Queensland METS clusters of expertise
Department of State Development. (2017). Queensland Mining Equipment, Technology and Services (METS) 10-Year Roadmap and Action Plan.

3. India profile

3.1 India at a glance

The Republic of India became an independent nation within the British Commonwealth on 15 August 1947.⁵ It is a constitutional republic consisting of 29 states and 7 union territories, with the Delhi national capital territory containing India's capital New Delhi.³ India's population is over 1.3 billion,⁹ comprising numerous castes and tribes.³ Though the country's population remains largely rural, India has three of the most populous and cosmopolitan cities in the world – Mumbai, Kolkata and Delhi.⁵ India's gross domestic product (GDP) in 2016 was approximately 2.264 trillion USD, with the value added from industry estimated at 29%.⁹ The country's official languages are Hindi and English. While it has no official religion, several, including Hinduism, Buddhism and Jainism, are widely followed.⁵

3.2 Economy

India has been named as the world's fastest growing large economy, a title it is predicted to retain until 2020,³ with a projected GDP growth of 7.4% for FY 2017–18.¹⁰

India has stable macroeconomic conditions, with fiscal consolidation tracking well.³ It also has a foreign direct investment (FDI) policy with an upwards trend, and is adopting greater capital account convertibility.³ When compared with other emerging markets in terms of growth potential, India scores favourably (especially in terms of risk), as illustrated in **Figure 2**.¹⁰

Figure 2: India compared to other emerging markets

India compares favourably with most other emerging markets in terms of growth potential

Country	Nominal GDP 2015 \$ billion	GDP growth		Inflation 2014–15%	Summary country risk score, 2015 ¹ (1 = low 100 = high)
		2014–15%	2016–20 forecast%		
India	2.0	7.3	7.7	4.9	33
Brazil	2.1	-1.6	2.2	6.9	39
Mexico	1.2	1.1	3.4	2.8	42
China	10.0	7.5	6.4	1.4	45
Russia	1.6	-2.0	2.3	16.4	49
Turkey	0.7	1.2	3.3	7.7	66

■ First among emerging markets
 ■ Second or third among emerging markets

1 Composite index political, financial and macro-economic
Source: The Economic Intelligence Unit

Kaka, N. & Madgavkar, A. (McKinsey & Company). (2016). India's ascent: Five opportunities for growth and transformation.

3.3 Key economic initiatives

It has been predicted that India will be the world's third largest economy by 2030.² These growth prospects are underpinned by government reform agendas that aim to create jobs and improve the country's current business environment.

Key government initiatives are as follows.³

- » Infrastructure investment
 - Focuses on five major areas: railways, roads, ports and coastal development, inland waterways, and housing.³
- » Make in India initiative
 - Aims to boost industrial growth and transform India into a global manufacturing hub, and includes improving protection of intellectual property.³
- » Universal energy access and reviving the power sector
 - The Power for All Programme aims to provide quality, reliable and affordable power supplies to all Indian citizens by 2019.³
 - The UDAY (Ujwal DISCOM Assurance Yojana) scheme aims to provide financial turnaround for state-owned power distribution companies.³
- » Skill and entrepreneurship development
 - Skill India seeks to train a skilled workforce of at least 300 million by 2020, by creating the institutional capacity to do so.³
- » Ease of Doing Business
 - Aims to create a conducive, investor-friendly business climate, through streamlining regulatory structures and cutting red tape.³



4. India's mining sector

The Indian mining sector is concentrated among a few public-sector companies, which account for approximately 90% of domestic production.¹¹

The major coal producer is Coal India Limited (CIL), responsible for more than 80% of total coal production in India,¹² with eight subsidiaries:

- » Bharat Coking Coal Limited (BCCL)
- » Eastern Coalfields Limited (ECL)
- » Central Coalfields Limited (CCL)
- » Western Coalfields Limited (WCL)
- » Northern Coalfields Limited (NCL)
- » Mahanadi Coalfields Limited (MCL)
- » South Eastern Coalfields Limited (SECL)
- » North Eastern Coalfields Limited (NECL).

Other significant public-sector companies include Singareni Collieries Company Limited (SCCL), the Steel Authority of India Limited (SAIL), Hindustan Copper Limited, Manganese Aluminium Company Limited, NMDC Limited and Neyveli Lignite Limited.¹³

In terms of the private sector, which has played an increasingly active role in the mining sector over the last decade, several large Indian corporations are making significant investments in mining and related technology.¹⁴ These include:

- » Tata Steel
- » Vedanta
- » Aditya Birla Group
- » Jindal (India) Limited.

One private-sector model increasing in popularity in India is a form of contract mining known as the mine-developer-cum-operator (MDO). Under the MDO model, a mine owner subcontracts the entire obligation of developing a captive coal mine to a contract miner, who operates on behalf of the mine owner against a fixed charge on a long-term basis.^{15, 16} The scope of the MDO's responsibility can encompass all, several, or one aspect, in areas such as:

- » extraction of a scheduled quantity and quality of coal
- » coal transportation to the stockyard or end-use plant
- » design and construction of the coal-handling plant and mine infrastructure
- » complete mine and operational planning for coal extraction

- » overburden removal and its disposal at a dump-yard
- » assistance to mine owners in land acquisition
- » carrying out of rehabilitation and resettlement (R&R) of project-affected families
- » construction and maintenance of haul roads and coal transportation roads
- » land reclamation and mine closure.¹⁵

MDOs provide initial funding, as well as investing in areas such as:

- » technology for mining optimisation in low-grade deposits
- » technology for exploration of hidden mineral resources
- » beneficiation and metallurgical innovations
- » infrastructure
- » community relationship management
- » sustainable development.¹⁶

Some of the more prominent MDOs include:

- » Essel Mining and Industries Limited (EMIL)
- » Thriveni Earthmovers
- » Sainik Mining and Allied Services
- » AMR India Limited
- » NCC Limited
- » Monte Carlo Limited
- » JSW Energy
- » JMS Mining Services Pty Limited
- » Gulf Oil India Limited
- » Adani Enterprises.

For more information on these companies, see Appendix 1.

Table 1: Mine-developer-cum-operator (MDO) route advantages and challenges ¹⁵

Advantages	Issues and challenges
<p>Scope</p> <ul style="list-style-type: none"> » On a case-by-case basis. » In some cases, the MDO has been given total responsibility, from obtaining statutory clearances, acquiring land and constructing infrastructural facilities to developing and operating the mine. » In other cases, these activities are covered by the block allottee. 	<p>Scope not clearly defined</p> <ul style="list-style-type: none"> » Roles, responsibilities and risk-sharing mechanisms of mine owners and contractors are currently not clearly defined in all cases, meaning different block allottees/owners will have different expectations.
<p>Experience</p> <ul style="list-style-type: none"> » MDOs are well equipped to handle the risks associated with development of captive coal blocks. » MDOs bring advanced technology with them. 	<p>Non-availability of equipment</p> <ul style="list-style-type: none"> » Most MDOs do not possess the necessary technology and equipment, relying on small-scale equipment instead. » This restricts production activities in projects with massive production potential. » Also leads to large sums being spent on buying or importing heavy equipment.
<p>Production</p> <ul style="list-style-type: none"> » Route ensures quick augmentation of production with environmentally safe and sustainable mining. » Route also ensures guaranteed production and delivery of coal at a fixed price, allowing the mine owner to focus on end-use projects, regulatory clearances, business development, marketing and logistics. 	<p>Land acquisition</p> <ul style="list-style-type: none"> » The capacity constraints of captive coal block owners in the Indian contract mining market often compel MDOs to take over land acquisition. » In this process, different coal mining companies follow different models. » Delays in land acquisition hurt an MDO's operations as its equipment and labour remain idle during this process.
<p>Investment incentives</p> <ul style="list-style-type: none"> » Investment in areas such as safety, environment, and proper implementation of mine closure plans due to the long contract duration. 	<p>Shortage of skilled labour</p> <ul style="list-style-type: none"> » There is a shortage of skilled mining engineers and technologists required to operate and support sophisticated imported mining equipment. » Deploying experienced team of professionals and continuously training operators adds to costs.

Advantages	Issues and challenges
<p>Hedges block owner</p> <ul style="list-style-type: none"> » Hedges owner from: <ul style="list-style-type: none"> • forex fluctuation, and • unanticipated cost risk. 	<p>Unclear statutory status</p> <ul style="list-style-type: none"> » Mine owners have to recognise that MDOs are not merely contractors but also operators of a mine. » Unless this is rectified, it will be difficult to understand their capacity to work.
<p>Competitive rates to block owner</p> <ul style="list-style-type: none"> » Through the international competitive bidding process. 	<p>Absence of escalation clause</p> <ul style="list-style-type: none"> » There is an absence of escalation clause in contractual agreements. » Often, land acquisition and R&R problems cause implementation delays, and absence of the escalation clause leads to increased costs for the MDO.
	<p>Mine closure activity</p> <ul style="list-style-type: none"> » MDOs receive mine development contracts for a fixed period and not for the entire lifetime of a mine. » However, the bulk of mine closure activity is undertaken at the end of a mine's lifecycle. » This creates confusion for the contractor as there is no clarity on the portion of closure activity that must be completed during its allotted time period.
	<p>Inadequate compensation</p> <ul style="list-style-type: none"> » Initially, state-owned coal companies formed joint ventures and followed the 74:26 rule of ownership (74% ownership was held by the state Public Sector Undertaking (PSU) and 26% by the MDO) – this route has now been prohibited. » Because the MDO has no stake in equity and is paid only on a per tonne basis, it is unrealistic to assume that it will undertake land acquisition as well.

5. Queensland METS opportunities in India

Key challenges in the Indian mining sector create opportunities for the Queensland METS sector. These challenges include:

- » Coal quality and beneficiation of lower grades¹¹
 - High ash content reduces power generation in thermal power plants, creating the need for beneficiation and/or coal washeries.
 - 70% of the proved coal reserves have grades ranging from G9–G14 (ie an ash percentage ranging from 34–55%).¹¹
 - For reference, the highest benchmark of Australian coal exports is 12–14% ash content, meaning, when compared to India’s coal, approximately 20% less coal has to be burnt to generate a unit of electricity.
 - It should be noted, however, that the Australian benchmark is gradually giving way to a lower-quality secondary benchmark with almost double the ash content (approximately 20% ash content).¹⁸
- » Thermal power plant efficiencies¹¹
 - Use subcritical technology, with efficiencies of 31–33%.¹²
 - India’s climate raises the temperature of cooling water, reducing power generation.¹²
 - The utilisation rate of power-generating firms remains low in India, despite a sharp increase in coal output. This can be attributed to power distribution companies (DISCOMs) being debt-ridden, impeding them from buying power and thereby reducing demand.
- » Coal transport infrastructure¹¹
 - Production lies in eastern and central regions of India, while demand lies in northern and western regions, creating a geographical mismatch.
 - The existing line capacity of Indian Railways is currently over-utilised.
 - As per the Environment (Protection) Amendment Rules, 2014, coal transported for thermal power plants with distance greater than 500km from the pithead must use raw, blended or beneficiated coal with ash content not exceeding 34% (current ash content of domestic coal ranges from 34–55%).
- » Environmental impacts¹¹
 - Mining
 - Burning of coal.
- » Skilled labour requirements¹¹

Key opportunities identified for the Queensland METS sector are outlined in **Table 2**.

Table 2: Key opportunities for the Queensland METS sector

Advantages	Issues and challenges
Environment	<ul style="list-style-type: none"> » Environmental advisory services » Clean-coal technology » Environmental and social responsibilities in mining <ul style="list-style-type: none"> • Best practices and services to mitigate environmental impacts and improve the relationships between energy and resource projects, and the communities they operate in » Environmental protection technology and equipment¹³ » Mine site rehabilitation expertise <ul style="list-style-type: none"> • Particularly for the Jharia coalfields/mine:²¹ <ul style="list-style-type: none"> - Mine fire control - Mine environment improvement - Infrastructure development
Safety	<ul style="list-style-type: none"> » Roof support and rock stability¹⁹ » Mine safety training » Safety systems and equipment¹³ » Collision avoidance systems²¹ » Mine ventilation systems¹⁹ » Dust suppression and suppressants
Washerries and beneficiation	<ul style="list-style-type: none"> » Coal washeries and components » Mineral beneficiation systems and components¹³ <ul style="list-style-type: none"> • Coal sizers • Modern design of crushers/screens • Impactors » Low grade iron-ore beneficiation²¹ <ul style="list-style-type: none"> • Jigs • Spirals • Teeter bed separators • Low/high-intensity, high-gradient magnetic separators • Flotation banks » BHQ/BHJ (Banded Hematite Quartzite/Banded Hematite Jasper) Beneficiation²¹ <ul style="list-style-type: none"> • Crushers • Screens • Teeter bed

Advantages	Issues and challenges
Operational / consultancy	<ul style="list-style-type: none"> » Haulage and transport solutions¹⁹ » Conveyor systems (pipe conveyors) » Conveyor equipment design and manufacture » Excavator buckets and truck trays design and building » Man riding systems » Slope stability radars/systems » Mineral analysis and weighing, particularly for in-motion situations¹³ » Outsource manufacturing (steel, electrical, paintwork) » Metallurgic testing and process design » Engineering solutions to mining » Project management; engineering design <ul style="list-style-type: none"> • Mechanical and electrical engineering services » Consulting, project management and technical support » Mining consultancy for the introduction of latest technology and methods » Geo-mining consultancy, especially where new and highly productive technologies would be deployed¹³ » Accelerating exploration processes¹⁹ » Augur mining » Feasibility studies » Resource and mining cost modelling » Performance management and information » Contract mining – open cast and underground

Advantages	Issues and challenges
Equipment/ maintenance	<ul style="list-style-type: none"> » Underground mining technologies and equipment <ul style="list-style-type: none"> • Underground mining communication • Underground transportation vehicles • Underground loaders » Niche mining equipment, such as pumps, valves, electricals¹³ » Equipment procurement with maintenance and repair contracts²¹ <ul style="list-style-type: none"> • Excavator • Rope shovels • Dumper crawler dozer • Wheel dozer » Mining parts and equipment sales and rentals » Drilling rigs, pumps, well-control equipment » Weighing and scales » Heavy-equipment jacks » Lighting towers, LED lights, batteries » Welder-generator-air compressor-battery charger-combination unit » Plastic and epoxy replacement parts » Preventative maintenance for truck engines » Attachments and protective coating » Refurbishing of electrical equipment
Training	<ul style="list-style-type: none"> » Labour training¹⁹ » Simulators for inhouse training <ul style="list-style-type: none"> • Including virtual reality mine simulation training » Vocational training in mining²¹ <ul style="list-style-type: none"> • Niche areas of mining • Consultancy for setting up a mining VET institution
IT	<ul style="list-style-type: none"> » Mine planning, design and management software¹⁹ <ul style="list-style-type: none"> • Blast management analysis (blast design, analysis and management) » IT software solutions²¹ <ul style="list-style-type: none"> • Surpac • Minex • Vulcan • Geological/modelling software • Simulation software to predict underground mine environment

6. Indian market access and business environment

6.1 Entry options

There are two potential routes for entering the Indian market:

- » establishing a presence in the Indian market
- » appointing a local agent, partner or distributor.¹³

Companies doing business with India may wish to establish a formal presence in the market, and any Australian company that intends to do so should ensure that an appropriate business structure is put in place that complies with Indian and Australian regulations.¹³ A foreign company setting up in India can operate as either an Indian company or as a foreign company.²²

To operate as an Indian company, a foreign company may:

- » set up as a wholly owned subsidiary company
- » enter a joint venture with an Indian partner (also known as equity participation), or
- » form a Limited Liability Partnership (LLP).²²

Caution needs to be taken when choosing an entity partner, and one should consider:

- » the relevance of their present business
- » the representation of other reputed METS companies, particularly any from overseas
- » the prospective partner's spread of offices in tier-two cities close to mining centres
- » the numbers of trained and qualified staff
- » the prospective partner's warehouse, maintenance and factory facilities
- » the prospective partner's turnovers and financials
- » the prospective partner's number of years in existence
- » the prospective partner's standing in the market, revealed by queries with some reputed mining companies.¹³

If operating as a foreign company, a foreign company may become established as a:

- » liaison office
- » project office, or
- » branch office.

Each option has different rules and regulations it needs to comply with.²²

Price sensitivity is also a notable characteristic in the Indian market.¹³ This can be observed in the decision of a number of overseas METS companies to reduce costs by establishing a

manufacturing base in India. This trend will become more common, as 'basic structures can be made locally at very low costs, without import duties, and the critical components and technology can be supplied from the home plant.'¹³

In terms of distribution channels, for large-value or sophisticated technology requirements, mining companies tend to make direct procurement through general or limited tenders.¹³

6.2 Funding

A foreign corporation can fund its Indian subsidiary through a variety of options, the primary methods being:

- » equity share capital
- » preference share capital
- » debentures and borrowings
- » external commercial borrowings
- » American depository receipts, global depository receipts, and foreign currency convertible bonds
- » listing of debentures to raise funds.

6.3 Business environment

6.3.1 Sovereign risk

India's sovereign risk is moderate, with a BBB-credit rating from Standard & Poor's.²² Australia's Export Finance and Insurance Corporation (Efic) suggests there is a relatively low likelihood of India defaulting on its debt obligations, even if individual or private-sector debts could default.

6.3.2 Ease of doing business

However, India scores relatively poorly on the World Bank's ease of doing business measure, ranking 130th of 190 countries in the 2017 Doing Business report.²⁴ Efic has identified the key business risks in India as those relating to enforcing contracts, paying taxes and gaining permits.²²

6.3.3 Corruption and bribery

Corruption in India is often cited as a barrier to effective development of the private sector.¹³ In 2016, India was ranked 79th of 176 countries on Transparency International's Corruption Perceptions Index (Australia was 13th).²⁵ Politicians, bureaucrats and law enforcement officials often wield significant discretionary power and notable abuse has been brought to light, with enforcement for fighting corruption described as weak and not uniform between states, and procurement practices lacking transparency and often accompanied by significant bureaucratic burden.¹³ Regulations are also frequently changed without prior consultation or communication and their application can be inconsistent and non-transparent.¹³

Bribery is another concern, with facilitation payments known as 'speed money' common practice in India for obtaining licences, permits, sanctions, approvals, infrastructure and facilities from government departments and agencies.¹³ This business environment poses risks that require

proactive and regular due diligence reviews. As bribery is considered a crime under Australian law, Australian firms wishing to operate in India should commit to the highest level of corporate behaviour and familiarise themselves with Australia's laws and penalties pertaining to bribery of foreign officials (as Australian individuals and companies can be prosecuted in Australia for bribing foreign officials when overseas).¹³

6.3.4 Intellectual property protection

Australian companies doing business in India are likely to find similarities between Indian and Australian intellectual property (IP) law and enforcement procedures.¹³

The International Property Rights Index 2017 ranked India 54th out of 127 countries for IP rights protection. India has been a World Trade Organisation member since 1995 and, as per the charter of member nations, must include IP protection in their national laws.¹³ It is also a signatory to the following international IP agreements:

- » Paris Convention
- » Berne Convention
- » Patent Cooperation Treaty
- » Madrid Protocol.¹³

6.3.5 Repatriation of capital by a company

Foreign capital invested in India is generally allowed to be repatriated along with capital appreciation, if any, after payment of taxes, provided investment was made on repatriable basis.²³ Repatriation is, however, subject to any lock-in conditions that may apply to an industry sector under FDI-control regulation. Companies are also able to repatriate funds to their shareholders (without any limits) by way of capital-reduction measures.²³ This, however, is court-driven.

For further information on topics relating to India's economic laws and regulations, and trade laws, readers are encouraged to see Ernst & Young Global Limited's 2014 **Doing business in India** report.²³

In light of the above, Australian companies seeking to set up business in India are advised to:

- » adopt an appropriate legal and tax structure from inception
- » use a qualified legal and tax firm with a presence in India to review all contracts
- » conduct legal, financial and technical due diligence on any potential partner to minimise risk
- » seek legal advice on protecting their intellectual property
- » allow adequate time for finalising partners, as companies in India prefer to establish a strong relationship before finalising a deal
- » be prepared for tough negotiations and to work through any legal issues.¹³

6.3.6 Indian market regulations (mining sector)

There are no quantitative import restrictions in India for METS.¹³

Import duties are nominal for capital goods, and apply equally to products from various international sources.

- » The duty rates range from 7.5% to 10% ad valorem, and there are further levies on this customs duty amount, but they apply to locally made goods as well.
- » The customs duty is 10% for steam coal, and nil for coking coal.¹³

Currently, approval is required from the Directorate General of Mines Safety for any underground application of mining equipment, which is known to be time-consuming and tedious.¹³

For a more detailed view of METS regulations, please see Appendix 2.

6.3.7 Culture and business practices

As a pluralistic, multilingual and multi-ethnic society, India has a rich and multifaceted culture and history. All of these elements influence the way India does business.

A defining feature of Indian culture is hierarchy, or showing respect for age and seniority. Hierarchical structures pervade business and culture, translating into organisations with a downward flow of communication from seniors to subordinates, where senior management is unquestioned and strictly obeyed.²⁷ Good business practices to follow that respect the importance of hierarchy can be found in **Figure 3**.

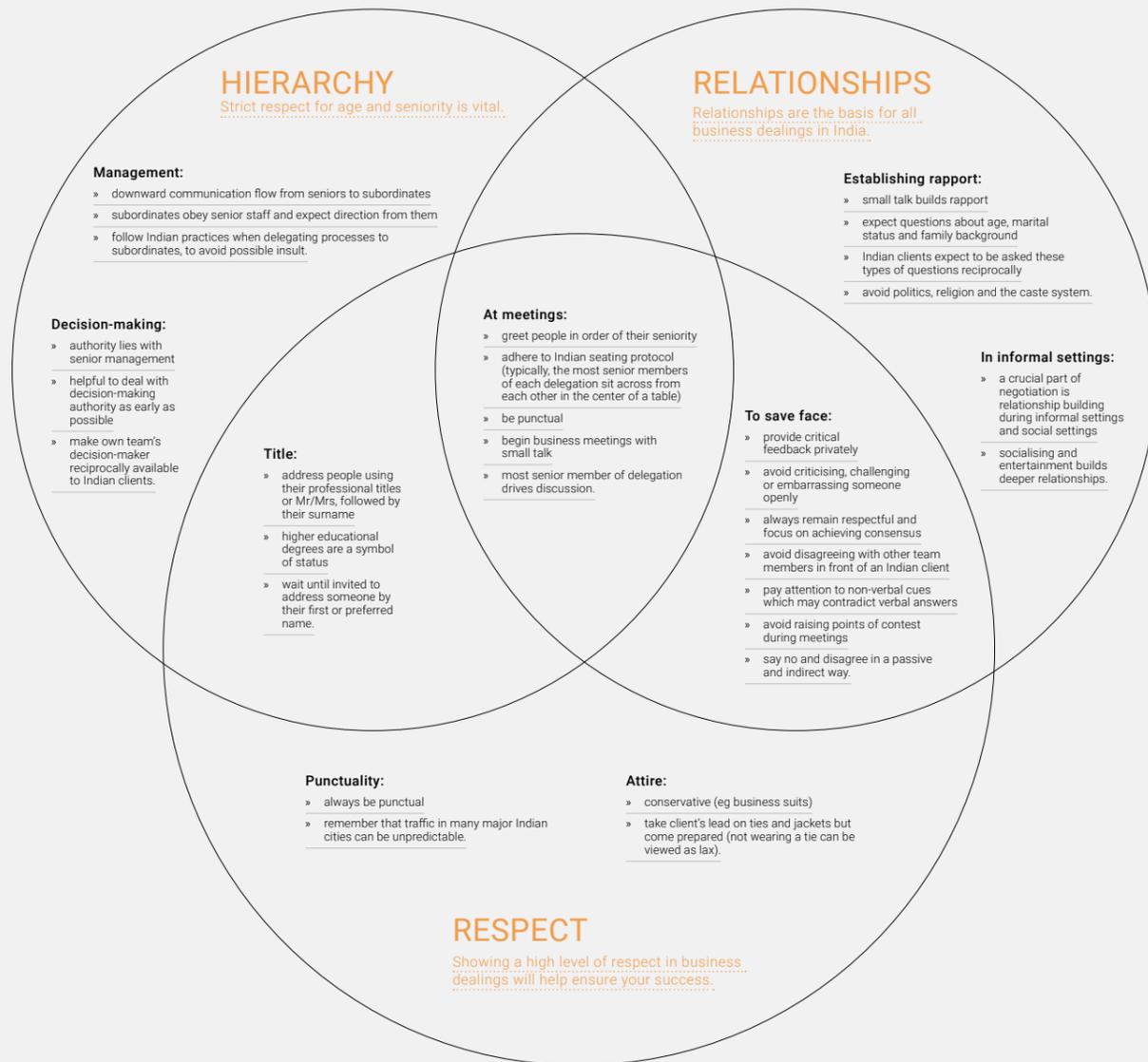
Relationships are the basis of all business dealings in India, and respect plays an important role in building deeper, long-term business relationships.⁴

This means that friendships and cordiality are an expected part of business relationships, and building relationships is a crucial part of negotiation. This typically takes place in informal settings during social events, such as dinners, coffee/tea, or drinks. Business meetings also often begin with conversation unrelated to the business being discussed, including topics regarding age, marital status and family background.⁴ Indian clients also expect to be asked these types of questions reciprocally.

The concept of preserving face, while less significant in Indian business culture than in other Asian cultures, is still important in Indian business dealings. Business practices to abide by that respect these elements of Indian culture can also be found in **Figure 3**.

Time is a more fluid concept in India. While Indian clients will respect deadlines, attitudes to milestones and timelines ahead of a final deliverable may be more flexible.⁴ Indians are 'big picture' thinkers and tend to discuss various elements of a project at the same time, instead of subsequent elements sequentially. As a consequence, sales and building-development processes in India may take longer to develop.⁴

Figure 3: Indian business culture and practices



7. References

- 1 McKinsey & Company (2014). Putting India on the growth path: Unlocking the mining potential. Retrieved from <http://www.mckinsey.com/global-themes/india/putting-india-on-the-growth-path-unlocking-the-mining-potential>
- 2 Australian Government: Department of Foreign Affairs and Trade. (2017). India country brief. Retrieved from <http://dfat.gov.au/geo/india/Pages/india-country-brief.aspx>
- 3 KPMG (2016). India soars high KPMG in India. Retrieved from <https://home.kpmg.com/in/en/home/insights/2016/02/india-soars-high.html>
- 4 Asialink Business (in partnership with Westpac). (2016). India Cultural Awareness Guide. Retrieved from <https://asialinkbusiness.com.au/research-resources/cultural-awareness-guide-india>
- 5 Srivastava, A., Allchin, F., Schwartzberg, J., Dikshit, K. Alam, M., Calkins, P.,... Spear, T. (2017). India. Retrieved from <https://www.britannica.com/place/India>
- 6 Australian Government: Australian Trade and Investment Commission. (2017). Australia Business Week in India 2017 – Mining Equipment, Technology & Services. Retrieved from https://www.austrade.gov.au/EventViewBookingDetails.aspx?Bck=Y&EventID=25015&m=0j0#/event?_k=jp4xiu
- 7 Deloitte. (2017). Mining and METS: engines of economic growth and prosperity for Australians. Retrieved from <https://www2.deloitte.com/au/en/pages/economics/articles/mining-mets-economic-growth-prosperity-engines.html>
- 8 Trade and Investment Queensland. (2017). Advancing Trade and Investment: Queensland Trade and Investment Strategy 2017–2022. Retrieved from <https://www.tiq.qld.gov.au/download/business-interest/invest/trade-investment-strategy-TIQ.pdf>
- 9 World Bank. (2017b). India – Country Profile. Retrieved from http://databank.worldbank.org/data/Views/Reports/ReportWidgetCustom.aspx?Report_Name=CountryProfile&Id=b450fd57&tbar=y&dd=y&inf=n&zm=n&country=IND
- 10 McKinsey & Company (2016). India's Ascent: Give Opportunities for Growth and Transformation. Retrieved from <http://www.mckinsey.com/~media/mckinsey/global%20themes/employment%20and%20growth/indias%20ascent%20five%20opportunities%20for%20growth%20and%20transformation/india-ascent-executive-briefing.ashx>
- 11 PricewaterhouseCoopers (PwC). (2016). Bridging the gap: Increasing coal production and sector augmentation. Retrieved from <http://www.pwc.in/publications/2016/bridging-the-gap-increasing-coal-production-and-sector-augmentation.html>

- 12 Oxford Institute for Energy Studies. (2016). Indian Steam Coal Imports: The Great Equation. Retrieved from <https://www.oxfordenergy.org/publications/indian-steam-coal-imports-great-equation>
- 13 Austrade. (2017b). Export markets – India (Mining to India). Retrieved from <https://www.austrade.gov.au/Australian/Export/Export-markets/Countries/India/Industries/mining>
- 14 Austrade. (2017a). Australian Business Week in India 2017 – Mining Equipment, Technology & Services. Retrieved from https://www.austrade.gov.au/EventViewBookingDetails.aspx?Bck=Y&Even-tID=25015&m=0|0#/event?_k=vip3at
- 15 India Infrastructure Publishing. (2016). Indian Infrastructure Mining Directory and Yearbook 2016–17. New Delhi, India: Indian Infrastructure Publishing
- 16 Geovale Services. (2015). Mine Development & Operation. Retrieved from <http://geovale.com/mine-develop-oper-operation>
- 17 Electrical Engineering Tutorials. Burning High Ash Content Coal: Problems and Remedies. Retrieved from <http://electricalengineeringtutorials.com/burning-high-ash-content-coal-problems-and-remedies>
- 18 Institute for Energy Economics and Financial Analysis. (2015). Australian Export Coal Quality. Retrieved from <http://ieefa.org/wp-content/uploads/2015/10/IEEFA-Australian-coal-briefing-note.pdf>
- 19 Austmine. (2016). The Indian Mining Market: Insights into an Emerging Market for Australian METS. Retrieved from <http://www.austmine.com.au/News/articleType/ArticleView/articleId/2990/The-Indian-Mining-Market-Insights-into-an-Emerging-Market-for-Australian-METS>
- 20 World Coal Association. (2016). Sustainable Energy Development: Opportunities and Innovation for Indian Coal. Retrieved from https://www.worldcoal.org/sites/default/files/resources_files/India%20conference%202016%20proceedings_0.pdf
- 21 Austrade. (2012). The Indian Mining Technology, Equipment and Services Opportunities and Strategies for Australian Companies. Retrieved from <https://www.austrade.gov.au/ArticleDocuments/1358/Indian-Mining-Technology-Equipment-and-Services.pdf.aspx>
- 22 HSBC Commercial Banking & PricewaterhouseCoopers. (2012). Doing Business in India. Retrieved from <https://www.pwc.de/de/internationale-maerkte/assets/doing-business-in-india.pdf>
- 23 Ernst & Young Global Limited. (2014). Doing Business in India. Retrieved from [http://www.ey.com/Publication/vwLUAssets/EY-doing-business-in-India-2013/\\$FILE/EY-Doing-business-in-India.pdf](http://www.ey.com/Publication/vwLUAssets/EY-doing-business-in-India-2013/$FILE/EY-Doing-business-in-India.pdf)
- 24 World Bank. (2017a). Doing Business 2017. Retrieved from <http://www.doingbusiness.org/reports/global-reports/doing-business-2017>

- 25 Transparency International. (2016). Corruption Perception Index 2016. Retrieved from https://www.transparency.org/news/feature/corruption_perceptions_index_2016
- 26 International Property Rights Index. (2017). The 2017 IPRI. Retrieved from <https://www.internationalpropertyrightsindex.org/full-report>
- 27 Commisceo Global. (2017). Country Guides: India. Retrieved from <http://www.commisceo-global.com/country-guides/india-guide#C5>

8. Sources for figures

Figure 1: Queensland METS clusters of expertise

- » Department of State Development. (2017). Queensland Mining Equipment, Technology and Services (METS) 10-Year Roadmap and Action Plan. Retrieved from <https://www.statedevelopment.qld.gov.au/industry-development/mining-equipment-technology-and-services.html>

Figure 2: India compared to other emerging markets

- » Kaka, N. & Madgavkar, A. (McKinsey & Company). (2016). India's ascent: Five opportunities for growth and transformation. Retrieved from <http://www.mckinsey.com/global-themes/employment-and-growth/indias-ascent-five-opportunities-for-growth-and-transformation?cid=other-eml-alt-mgi-mck-oth-1709&hid=5ae5fd3b7901445bad0dc39539dd0e23&hctky=3029953&hdpid=b9a11127-3890-4565-bc87-15f1b087bc56>

Figure 3: Indian business culture and practices

Created using information from:

- » Lindholm, K. (2013). The Implications of Culture in Business and the Cultural dimensions of Finland and India. (Bachelor thesis, Helsinki Metropolia University of Applied Sciences, Helsinki, Finland). Retrieved from <https://www.theseus.fi/bitstream/handle/10024/65301/Bachelor%20Thesis%20final%20kristian%20lindholm.pdf>
- » Asialink Business (in partnership with Westpac). (2016). India Cultural Awareness Guide. Retrieved from <https://asialinkbusiness.com.au/research-resources/cultural-awareness-guide-india>

Appendix 1: MDOs

Essel Mining and Industries Limited (EMIL)

- » On its company website, EMIL credits itself as providing superior mining techniques and equipment, as well as flexible operations and systems.¹
- » EMIL provides mining operation services for MCL (of CIL) at the Bhubaneswari Coal Mine, and for ECL (of CIL) at the Rajmahal Coal Mine.¹

Thriveni Earthmovers

- » Thriveni Earthmovers specialise in mining natural resource commodities, with key assets in heavy earth-moving machineries (HEMM) and mining operation infrastructure.²
- » In 2015, Thriveni Earthmovers, in a joint venture with Sainik Mining and Allied Services, was contracted by NTPC Limited to develop the Pakri-Barwadih coal block.³

Sainik Mining and Allied Services

- » Sainik Mining and Allied Services Limited engages in contract mining and logistics operations, and owns a fleet of surface miners in the coal mining industry.⁴
- » As mentioned above, Sainik Mining and Allied Services was contracted by NTPC Limited to develop the Pakri-Barwadih coal block with Thriveni Earthmovers in 2015.²

AMR India Limited

- » AMR India Limited engages in limestone, coal and lignite mining, and offers clients in the Indian mining industry superior mining techniques, equipment and flexibility in operations and systems.⁵
- » AMR India Limited currently has mining contracts with SCCL at an Andhra Pradesh coal mine, and with the Gujarat Industries Power Company Limited at a Gujarat lignite mine.⁵

NCC Limited

- » NCC Limited's mining division focuses on removal of overburden and extraction from open cast mines (such as those of coal, lignite and other minerals) with the public sector (clients including the subsidiaries of CIL, SAIL, Gujarat Mineral Development Corporation, SCCL and Maha Tamil Collieries Limited) and other private-sector mine operators.⁶ It also participates in tenders for design, supply and erection of coal-handling plants and silos with the public sector (with clients such as the subsidiaries of CIL, NTPC and NALCO).⁶

Monte Carlo Limited

- » Through the MDO delivery route, Monte Carlo Limited focuses on the removal of overburden and extraction of coal and lignite from mines in India.⁷ The company has executed many industrial overburden removal and excavation projects from various private and public bodies, including current projects under the subsidiaries of CIL.⁷

JSW Energy

- » JSW Energy has integrated backwards into mining to become a fully integrated power company.⁸ It sources its lignite from the Barmer Lignite Mining Company Limited (or BLMCL, a joint venture between a subsidiary of JSW Energy, Raj WestPower Limited, and the state-owned Rajasthan State Mines and Minerals Ltd).⁸
- » BLMCL has rights to develop lignite mines in two coal blocks in the state of Rajasthan, Kapurdi and Jalipa. The Kapurdi Lignite Mine is currently operational, and the Jalipa block is still under development.⁸

JMS Mining Services Pty Limited

- » JMS Mining Services Private Limited holds expertise in several mining areas in relation to the implementation of mass-production technology in the underground coal mining sector. It specialises in geo-technical investigations, mine planning and cost estimation, project reports preparation, the development and operation of mines and related infrastructures and life cycle management of equipment.⁹
- » JMS has projects with several key public companies in the Indian mining sector.⁹ These include:
 - two projects with SCCL, the Khairaha Project¹⁰ and the Adriyala Bolter Miner Project¹¹
 - several projects with SECL (of CIL), including the Haldibari,¹² Vijay West, Kapildhara and Sheetaladhara projects¹³
 - several projects with ECL (of CIL), including Sarpi, Jhanjra and Kumardih B Incline Drivage projects.¹⁴

Gulf Oil India Limited

- » Gulf Oil India Limited undertakes large-scale mining services in coal, iron ore, limestone and bauxite mines. Its current projects include the Dudhichura and Nigahi projects with CIL subsidiary NCL, and the Manuguru Project with SCCL.¹⁵

Adani Enterprises

- » The mining business unit of Adani group began its first MDO contract in 2009 for the development of the Parsa East and Kanta Basan coal blocks, allotted to Rajasthan Rajya Vidyut Utpadan Nigam (RRVUN, a public-sector electricity generation company).¹⁶ As an MDO, Adani Mining undertook mining operations on a turnkey basis and successfully controlled project development from planning to production. Currently, the company has added three additional coal blocks – the Kente Extension, Parsa and Jitpur – to its portfolio.¹⁶

References for Appendix 1

- 1 Aditya Birla – Essel Mining & Industries Limited. (2017). About our Coal Division. Retrieved from <http://www.esselmining.com/businesses/coal/overview.html>
- 2 Thriveni Earthmovers. (Copyright 2016). Pioneers in Innovative Mining Practices. Retrieved from <http://thriveni.com>
- 3 The Economic Times. (2015). NTPC gives Pakri-Barwadih coal block contract to Thriveni-Sainik. Retrieved from <http://economictimes.indiatimes.com/industry/energy/power/ntpc-gives-pakri-barwadih-coal-block-contract-to-thriveni-sainik/articleshow/49158025.cms>
- 4 Bloomberg. (2017). Company Overview of Sainik Mining and Allied Services Limited. Retrieved from <https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=38248118>
- 5 AMR Group. (2017). Mining. Retrieved from https://www.amrgroup.in/business_mining.html
- 6 NCC Limited. (Copyright 2007). Mining – Key Projects. Retrieved from <http://ncclimited.com/mining.html>
- 7 Monte Carlo Limited. (2017). Mining. Retrieved from <http://www.mclindia.com/Business/Mining>
- 8 JSW Energy. (2017). Mining. Retrieved from <http://www.jsw.in/energy/jsw-mining>
- 9 JMS Mining Services Pty Limited. (Copyright 2011). Projects. Retrieved from http://www.jmsmining.com/pages/view_page/6-Projects
- 10 Projects Today. (2017). Khairaha Coal Mining Project. Retrieved from <http://www.projectstoday.com/Projects/Khairaha-Coal-Mining-Project-54675>
- 11 Austrade. (2017c). Singareni Collieries Company Limited. Retrieved from <http://www.austmine.com.au/Portals/25/Content/Documents/SINGARENI%20COLLIERIES%20COMPANY%20LIMITED.PDF>
- 12 MoEF & NIC for Transparent & Responsive Governance. FCA Projects, Diverted Land, CA Land Management. Retrieved from http://egreenwatch.nic.in/FCAProjects/Public/ComplateProject_Status.aspx?ID=33636
- 13 Coal India. (2016). 30th Annual Report 2015-16. Retrieved from https://www.coalindia.in/Portals/13/PDF/SECL_05092016.pdf
- 14 Eastern Coalfields Limited. (Copyright 2014). Planning. Retrieved from <http://www.easterncoal.gov.in/planning.html>
- 15 Gulf Oil Corporation Limited. (Copyright 2009). Mining Services. Retrieved from http://www.gulfoilcorp.com/all_product.php?scatid=58
- 16 Adani Group. (Copyright 2015). India. Retrieved from <http://www.adanienterprises.com/businesses/mining/india>

Appendix 2: Mining industry background

Coal block allocation

Under the Coal Mines (Nationalisation) Act, 1973, coal mines were nationalised in stages and coal mining was essentially reserved for the public sector. An amendment to the Act in 1976 permitted two exceptions to this general policy stance:¹

- » the captive mining of coal by private companies engaged in the production of iron and steel
- » subleases to the private sector for coal mining in isolated pockets not amenable to economic development and not requiring rail transport.

In 1992, an inter-ministerial and intergovernmental body and screening committee was constituted through an administrative order of the Ministry of Coal for allocating coal blocks for captive mining, and saw 218 coal blocks allocated to a number of companies for captive use in various sectors.²

Further amendments to the Coal Mines (Nationalisation) Act, 1973, in 1993 allowed private-sector electricity generators to operate captive coal mines, engage in coal washing and undertake other related activities. In 1996, similar rights to operate captive coal mines were extended to cement producers.¹

Competitive bidding was introduced for allocation of coal/lignite blocks in September 2010 by amendment of the Mines and Minerals (Development and Regulation) (MMDR) Act, 1957, and the central government introduced rules for auctioning coal blocks via competitive bidding – The Auction by Competitive Bidding of Coal Mine Rules, 2012 – in February 2012.²

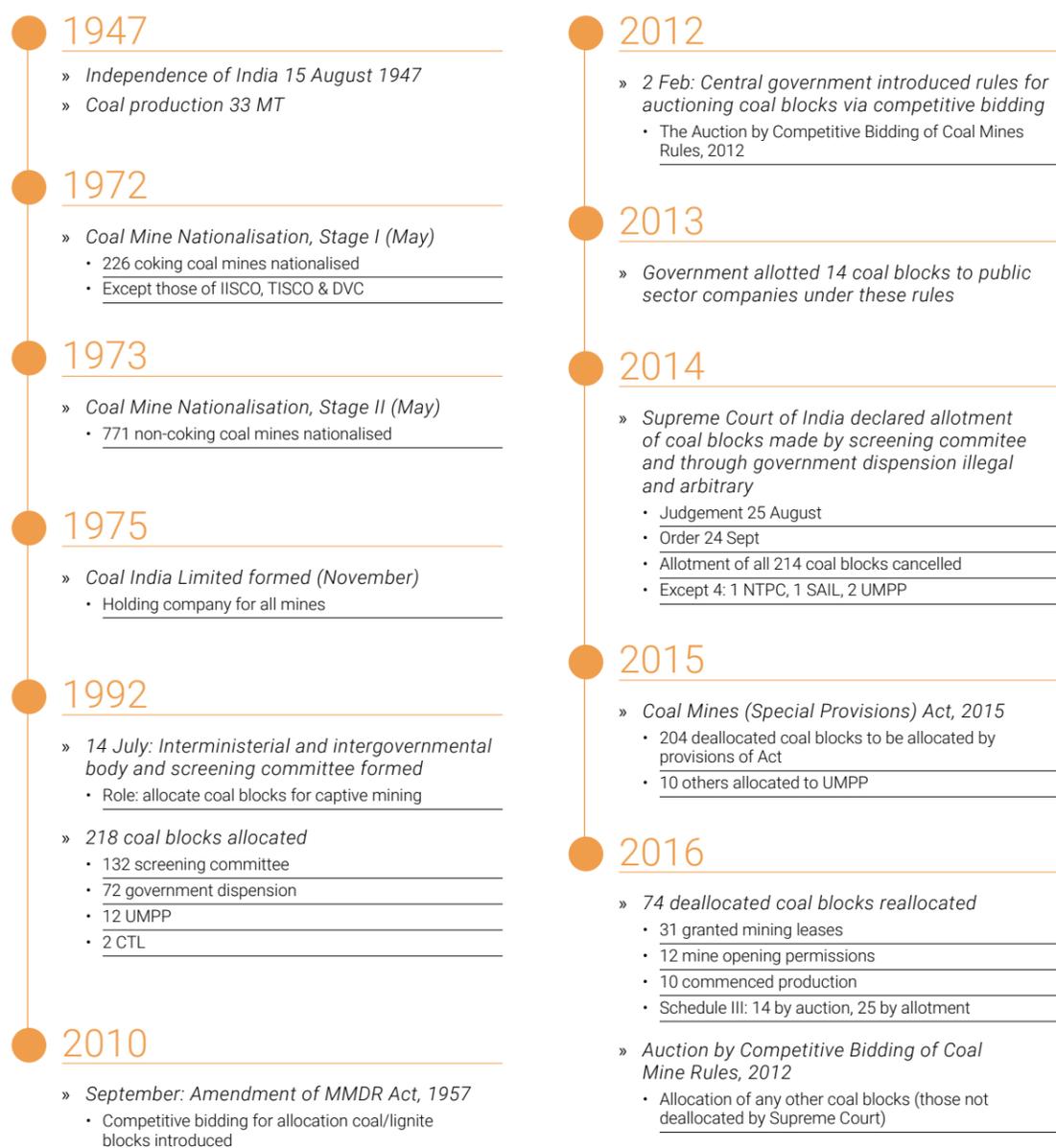
2014 saw the Supreme Court of India declare that the allotment of the coal blocks made by the screening committee and through government dispensation (introduced in 1992), as arbitrary and illegal.² Consequently, the allotments of the majority of India's coal blocks were cancelled, to be reallocated as per provisions of the Coal Mines (Special Provisions) Act, 2015.

In their 2016 report, PricewaterhouseCoopers states that to date of publication (July 2016), 74 blocks had been allocated by the Ministry of Coal to various public- and private-sector companies as per this Act. Any other coal blocks (ie those not deallocated by the Supreme Court) are allocated as per the Auction by Competitive Bidding of Coal Mine Rules, 2012.²

A timeline of the background of coal block allocation can be seen below, in **Figure A2-1**.

Figure A2-1: A timeline of the background of coal block allocation (PricewaterhouseCoopers, 2016)

METS regulations



Currently, approval is required from the Directorate General of Mines Safety for any underground application of mining equipment, which is known to be time-consuming and tedious.³

Participation by the private sector, including international companies, is allowed in coal washeries and across mining sectors, with the exception of coal mining and atomic minerals.³

In the area of coal mining, only captive mining is allowed by private companies (including international companies). However, the Indian Government has taken a progressive and strategic approach to opening the mining sector. First, it is re-allocating coal blocks to domestic private and public companies with a specified end-use (captive mining). In a second phase, the government will auction coal blocks for commercial mining, whereby state-owned and standalone private and foreign companies will be allowed to mine and sell coal without end-use restrictions.²

In the area of mineral mining, the Ministry of Mines is responsible for the survey and exploration of all minerals (other than natural gas and petroleum) and for mining¹

Therefore, under current law, private mining companies are able to engage only in captive mining and are unable to sell the coal they mine. Put simply, this means that a small number of state-owned enterprises (like CIL and SCCL) control an overwhelming majority of the market share (ie an oligopoly), and lack private competition to act as a catalyst for improving efficiencies.

In order to meet the country's massive coal demand (and achieve initiatives like Power for All by 2019) while minimising coal imports, the Indian Government has set a target of 1.5 billion tonnes (BT) of domestic coal production by FY 2020; CIL's production to sit at 1 BT, and SCCL and other public and private companies to contribute 500 million tonnes (MT).² CIL would not be able to meet such an ambitious target without achieving maximum production efficiency, requiring significant investment in METS and the implementation of best mining practices. To do so, companies like CIL put out tenders for their coal blocks, where private MDOs are able to bid and, once chosen, complete their coal projects. This may explain CIL's 9% increase in production in 2015, which was significantly higher than its performance over the last decade (which saw production grow at a compound annual growth rate (CAGR) of only 6%).² Consequently, the MDO route is where the key opportunities for the Queensland METS sector may lie.

References for Appendix 2

- 1 IBISWorld. (2017). IBISWorld Industry Report B0511-GL Global Coal Mining. Retrieved from www.ibisworld.com.au
- 2 PricewaterhouseCoopers (PwC). (2016). Bridging the gap: Increasing coal production and sector augmentation. Retrieved from <http://www.pwc.in/publications/2016/bridging-the-gap-increasing-coal-production-and-sector-augmentation.html>
- 3 Austrade. (2017b). Export markets – India (Mining to India). Retrieved from <https://www.austrade.gov.au/Australian/Export/Export-markets/Countries/India/Industries/mining>
- 4 **Figure A2-1:** A timeline of the background of coal block allocation. Retrieved from PricewaterhouseCoopers (PwC). (2016). Bridging the gap: Increasing coal production and sector augmentation. Retrieved from <http://www.pwc.in/publications/2016/bridging-the-gap-increasing-coal-production-and-sector-augmentation.html>



TIQ Trade & Investment
Queensland
AUSTRALIA



TIQ.QLD.GOV.AU

For further information or help with your trade and investment enquiries, contact TIQ.

Connect. Be Connected

 +61 7 3514 3147

 @tradeinvestqld #tiq

 tiq.info@tiq.qld.gov.au

 TradeandInvestmentQld

 tiq.qld.gov.au

 Trade & Investment Queensland
