

Opening remarks

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2018

London, the Centre for the Mining Sector: Listing Equity and Debt on the LSE

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Markets, London Stock
Exchange

Accessing London's Global Capital Markets

Discussion Material

September 2018



London
Stock Exchange

Benefits of Listing in London

Supportive UK ECM Environment	LSE ranks 1st in Europe with 40 IPOs in H1 2018 raising £4.1 billion
Access the deepest pool of international capital in the world	85% of investors in London Stock Exchange listed securities do not hold Tadawul listed securities
Enhanced liquidity profile	Value traded on London Stock Exchange is more than all Middle Eastern exchanges combined
Ability to conduct large offerings	In 2017 alone, 53% of London Stock Exchange issuers successfully returned to market to raise further capital
Capital to fund acquisitions and expand into new markets	Companies made acquisitions in 36 different countries using LSE-listed shares as acquisition currency
Straightforward documentation & a choice of markets	Renowned for equal treatment of all shareholders and low litigation risk
Choice of instrument to suit your trading requirements	Standard or Premium listing on the Main Market Ordinary Shares* or Depository Receipts
Maximising issuer profiles	Extensive LSEG product offering to enhance issuer profiles

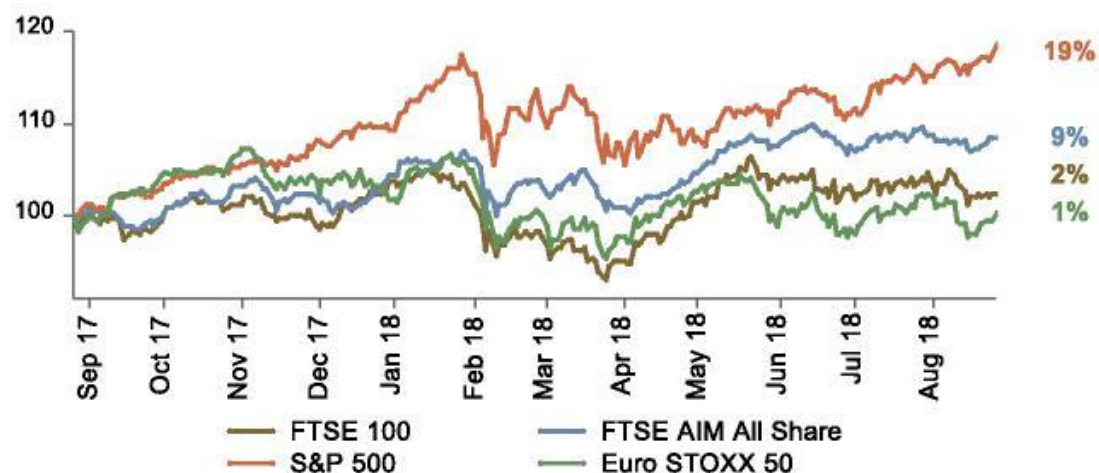
* For companies with market capitalisation above \$500m



UK Equities Outperform Rest of Europe

Economic indicators positive for sentiment across global equity markets

UK AIM among leading indexes globally over last 12 months Key drivers are strong corporate earnings & revenue growth



S&P 500 sets 2018 YTD high backed by US economic outperformance and strong Q2 earnings and revenue growth

Economic indicators are supportive globally, with positive purchasing manager's index, retail sales, and jobs readings

European equities see their first weekly inflow for 26 weeks

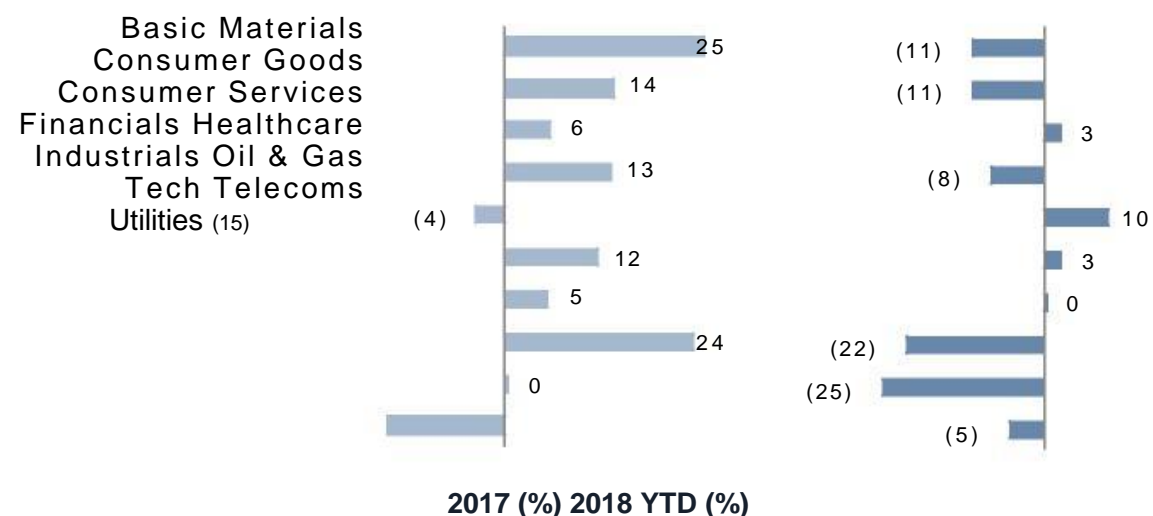
Sterling ended marginally higher with high volatility driven by Brexit noise

US Equity Funds record minimal inflows as 'trade tension' fears are stoked

Global economic growth remains robust

	Real GDP (%)			CPI Inflation (%)			Policy Rates		
	17	18E	19E	17	18E	19E	17	18E	19E
UK	1.70	1.34	1.45	2.70	2.49	2.10	0.50	0.74	1.13
Eurozone	2.52	2.14	1.85	1.53	1.69	1.64	0.00	0.00	0.19
US	2.20	2.83	2.41	2.14	2.50	2.27	1.50	2.42	2.95
China	6.90	6.56	6.27	1.55	2.15	2.27	4.35	4.33	4.18
Japan	1.74	1.06	1.01	0.47	0.94	1.17	-0.10	-0.10	-0.09

2018 UK equity performance resilient despite Brexit uncertainty



Source: FactSet, as at 10 September 2018 *
 FTSE All Share indexes for ICB Industries

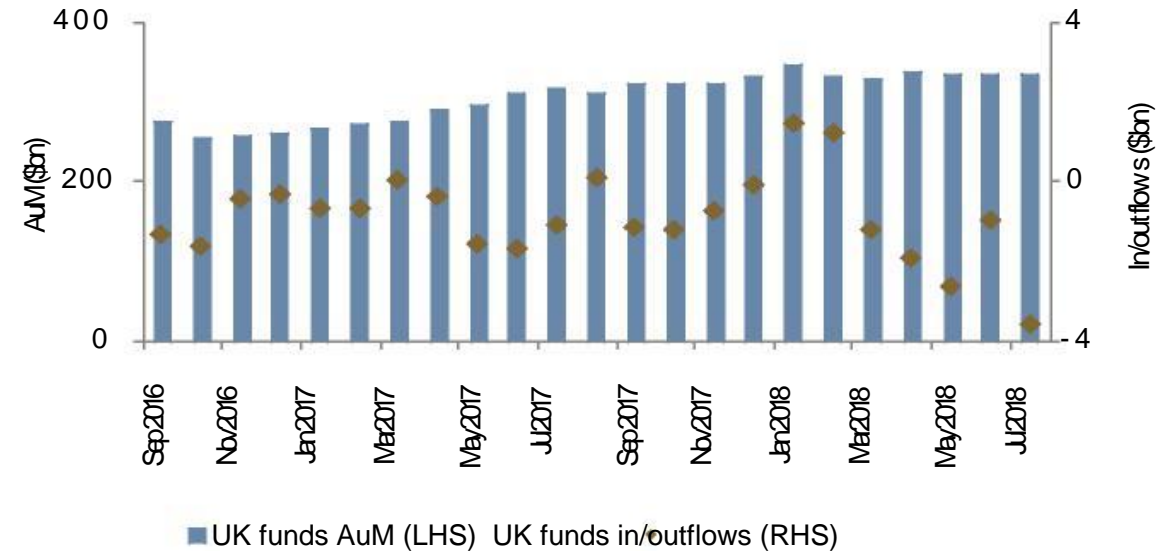
Supportive Equity Environment

UK equity performance reinforced by earnings growth

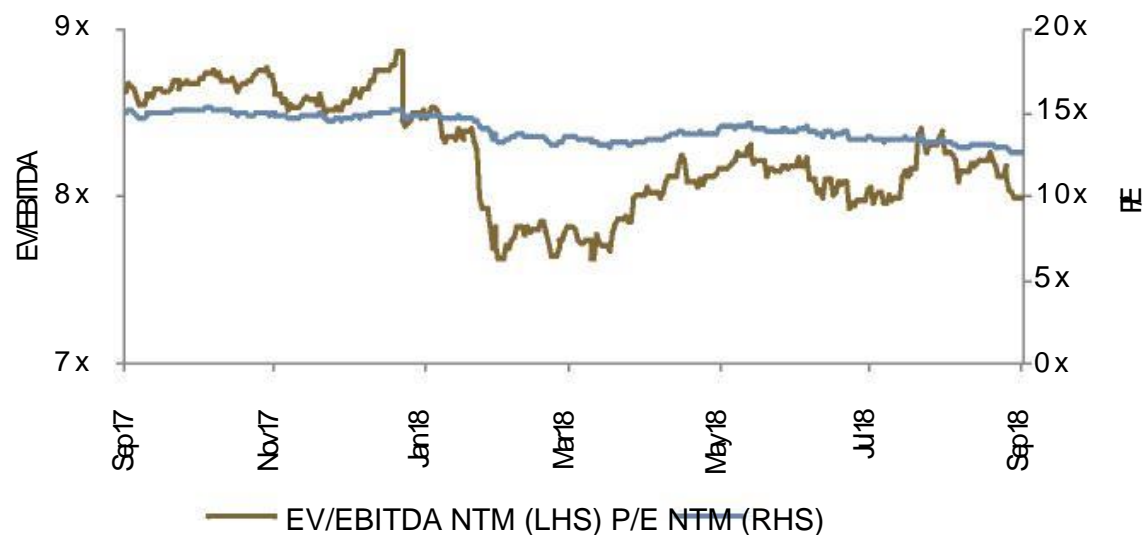
US Fed 25bp hike expected for September

Date	Event
10 Sep	GDP
11 Sep	Unemployment
13 Sep	Bank rate
13 Sep	ECB rate
13 Sep	CPI inflation
17 Sep	CPI inflation
19 Sep	Policy rate

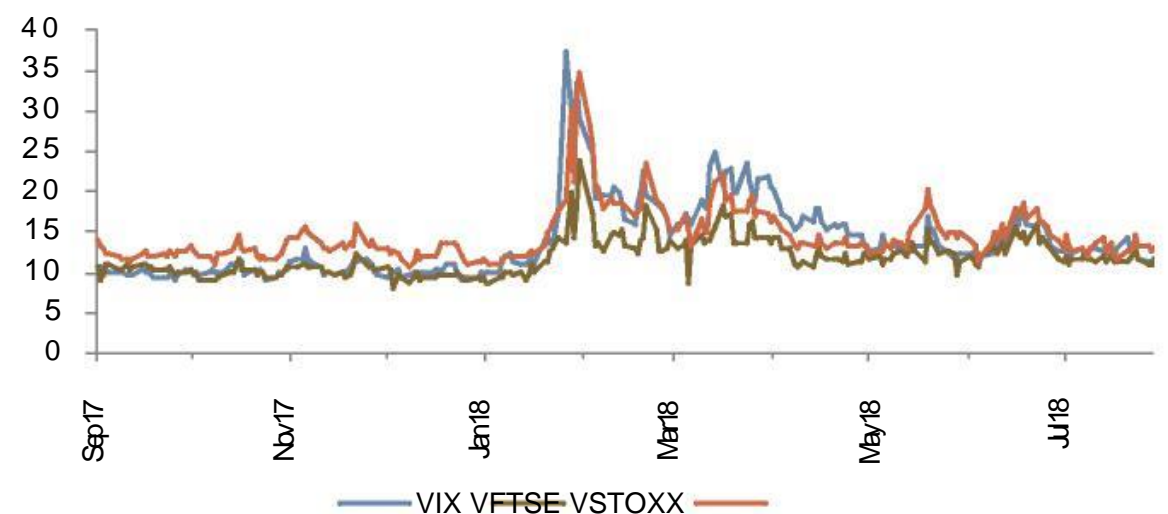
UK equity fund AuM holds steady despite short-term outflows



UK equities display improving earnings and attractive yield



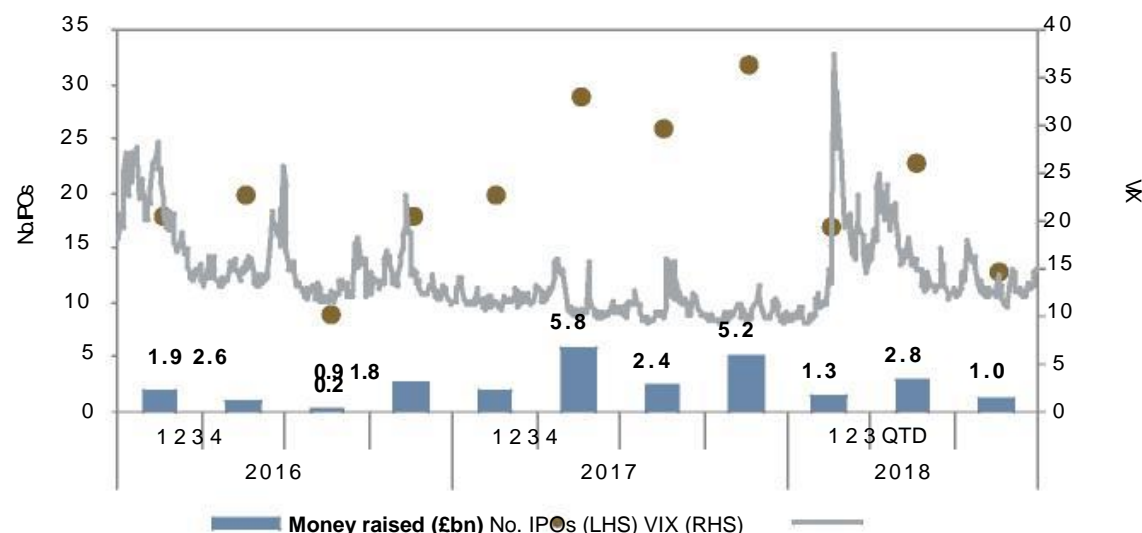
Volatility increases as US-China 'trade war' tensions lift



International Companies Drive IPO Market

Q2 sees 3 large capital raises from international companies

Supportive Q3 2018 IPO pipeline despite uptick in volatility



International issuers and tech take centre stage

In Q2, LSE ranks 1st in Europe by volume and value raising £2.8bn from 23 IPOs

8 of the 10 largest European growth market IPOs floated on AIM including – Codemasters, Urban Exposure & Team17

Large cap IPO activity driven by international companies as the UK equity capital market shrugs off Brexit concerns to attract cross-border listings

Czech tech giant Avast was the largest tech IPO in 2018 and among the top 5 tech IPOs on LSE of all time.

Over last 5 months, LSE IPOs experience high activity levels*

Date	Company	Sector	Primary (£m)	Secondary (£m)	Pricing quartile †	Price perf. (%)	Country
17-Aug-18	Sensyne Health	Tech	60.0	-	-	18	U K
03-Aug-18	Argo Blockchain	Tech	25.0	-	-34	UK	
26-Jul-18	Nucleus Financial	Tech	-	32.1	-	15	U K
19-Jul-18	TheWorks.co.uk	Consumer	28.5	36.7	-6	UK	
13-Jul-18	ASA International	Financials	-	137.7	1st	53	Netherlands
11-Jul-18	Hipgnosis Songs Fund	Financials	202.2	-	-6	Guernsey	
05-Jul-18	Yellow Cake	Financials	152.2	-	-	14	U K
29-Jun-18	Amigo	Financials	-	359.5	4th	-16	UK
29-Jun-18	Knights	Support Services	30.0	20.0	-	32	U K
28-Jun-18	Mind Gym	Support Services	-	50.8	-	-14	UK
25-Jun-18	Quilter	Financials	-	243.2	4th	-6	U K
20-Jun-18	Tekmar	Basic Materials	61.8	-	-	-24	UK
20-Jun-18	Anexo	Financials	25.0	-	-	15	U K
14-Jun-18	Aquis Exchange	Financials	12.0	20.1	-	-67	UK
01-Jun-18	Codemasters	Tech	15.0	170.0	-	-17	U K
23-May-18	Team17	Tech	45.1	62.4	-	-36	UK
10-May-18	Avast	Tech	147.4	454.6	4th	7	Czech Republic
09-May-18	Urban Exposure	Financials	150.0	-	-	-12	UK
08-May-18	Rosenblatt	Support Services	35.0	8.0	-	8	U K
04-May-18	Vivo Energy	Services Oil & Gas	-	603.1	4th	-12	Morocco
Average			16.8	37.3		4	

Source: LSE, Dealogic, as at 10 September 2018

* Excludes transactions raising less than £20m and all investment funds (including REITs and SPACs)

† Only displayed for Open Price IPOs with published price range, ● = 1st quartile, ● = 4th quartile

London's Metals & Mining Credentials



London
Stock Exchange

Overview of Metals & Mining Sector

LSE is home for the world's 3 largest mining companies



3/5

3 of the 5 largest publicly traded mining companies are listed in London

19%

LSE is a leading stock exchange for mining companies and accounts for 19% of the total market capitalization of all listed mining companies worldwide

Top 5 Public Mining Companies Mkt Cap (\$bn)

BHP Billiton Plc	116
Rio Tinto Plc	83
Glencore Plc	56
China Shenhua-h	51
Southern Copper	32

 LSE listed



Source: Bloomberg, Factset, September 2018

Note: FTSE ICB Sectors Industrial Metals & Mining and Mining classifications used

*Dubai Financial Market & Abu Dhabi Securities Exchange both have no listed Metals & Mining companies

Overview of LSE Metals & Mining Sector



London
Stock Exchange

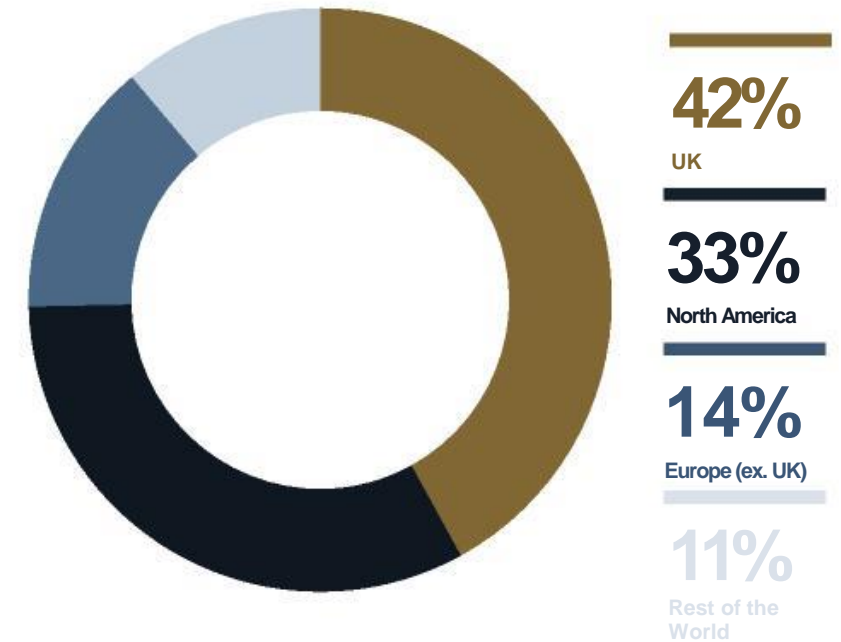
LSE is home to 171 mining companies

Mining Subsectors No. of Companies

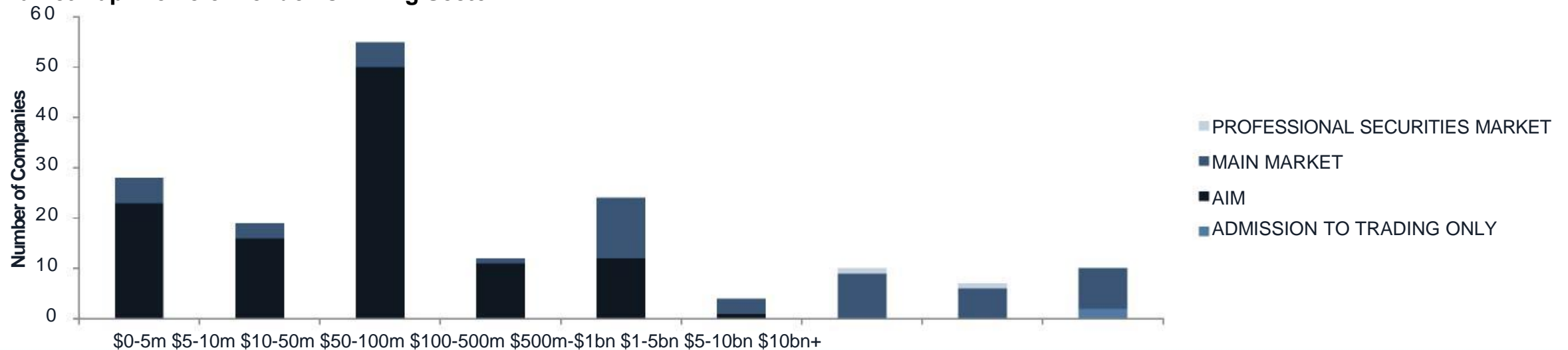
General Mining	74
Gold Mining	42
Steel	18
Nonferrous Metals	12
Platinum & Precious Metals	8
Diamonds & Gemstones	7
Coal	7
Aluminium	3

Total Number of Companies 171

Total Market Cap \$469bn



Market Cap Profile of London's Mining Sector



Source: FactSet, Dealogic, LSE data, September 2018

Note: FactSet Universal Screening: Metals/Minerals, Steel, Coal and Precious Metal

London Metals & Mining Recent IPOs

A steady stream of listings



London Metals & Mining 2018 IPOs

Exchange	Pricing Date	Company	Money Raised (\$m)	Market cap at IPO (\$m)	Country of Primary Operations
Main Market	31/07/2018	Kavango Resources	2.0	4.4	United Kingdom
Main Market - Standard	24/07/2018	Danakali Limited	n/a	160.1	Eritrea
AIM	16/04/2018	Crusader Resources Limited	5.0	28.7	Australia
AIM	29/03/2018	Kore Potash Plc	12.9	79.4	Rep. of Congo
AIM	26/03/2018	Bacanora Lithium	n.a.	155.4	Argentina
AIM	24/01/2018	Cradle Arc plc	8.0	30.8	Botswana
AIM	21/12/2017	Erris Resources plc	5.4	10.4	United Kingdom
Main Market - Standard	18/12/2017	Shefa Yamim (ATM) Ltd	6.6	17.9	Israel
AIM	09/11/2017	AfriTin Mining Ltd	4.6	21.1	Namibia
AIM	09/10/2017	Cora Gold Ltd	4.5	11.9	Mali
AIM	10/08/2017	Altus Strategies plc	1.4	13.9	Cameroon
Main Market - GDR	30/06/2017	PJSC Polyus	879	8,545	Russian Federation

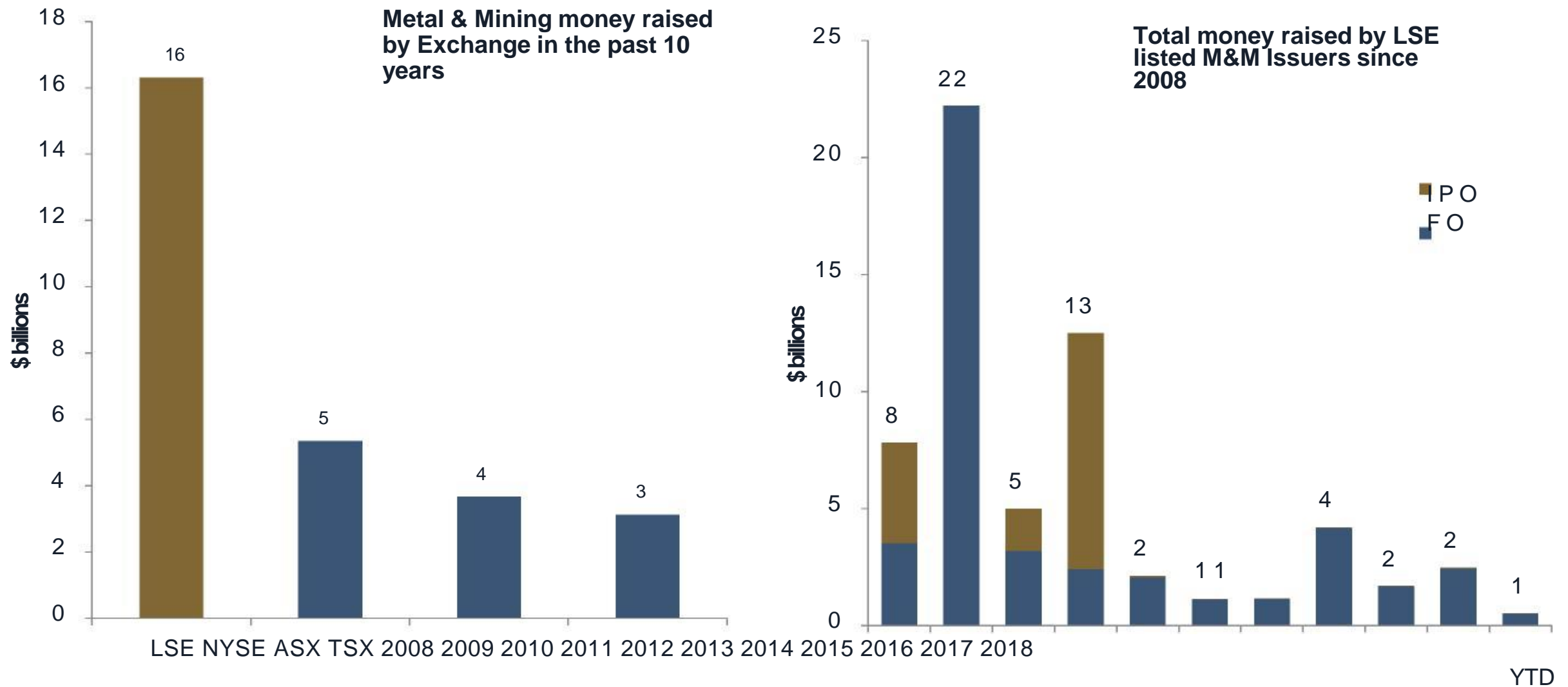


Source: Dealogic, September 2018

Metals & Mining Issuance

Starting to recover

Since 2008, more metal and mining money has been raised on LSE than on any other international exchange

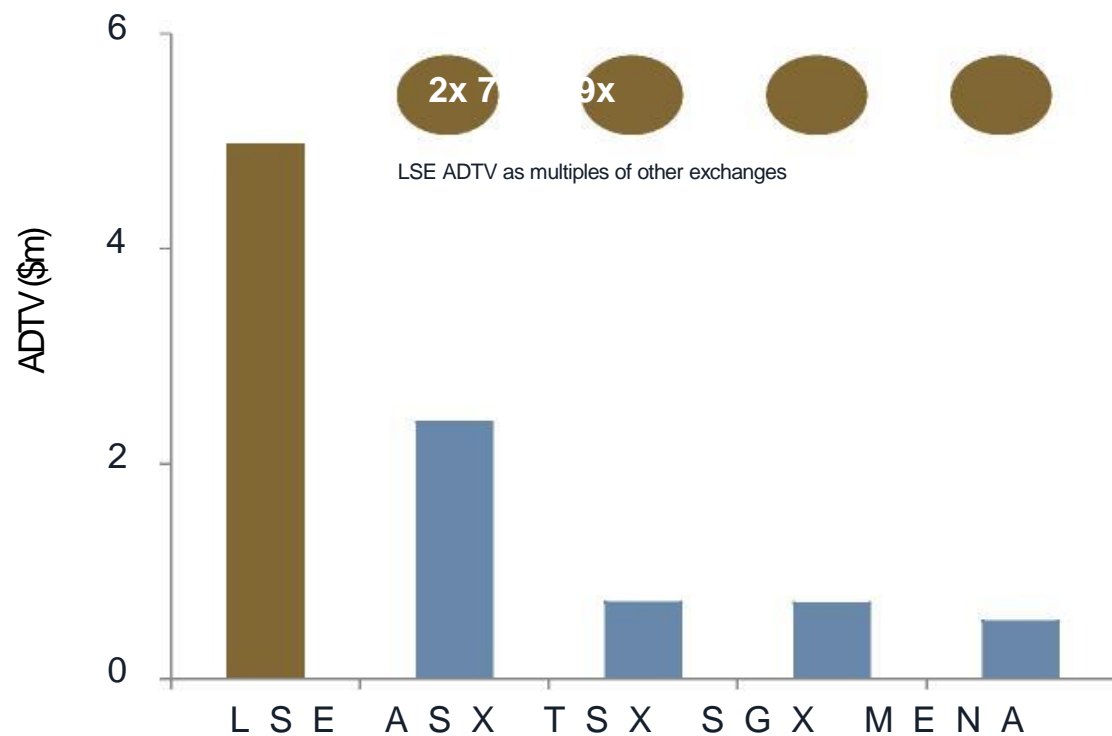


Liquidity Magnet for Metals & Mining

More trading happens on LSE than any other exchange

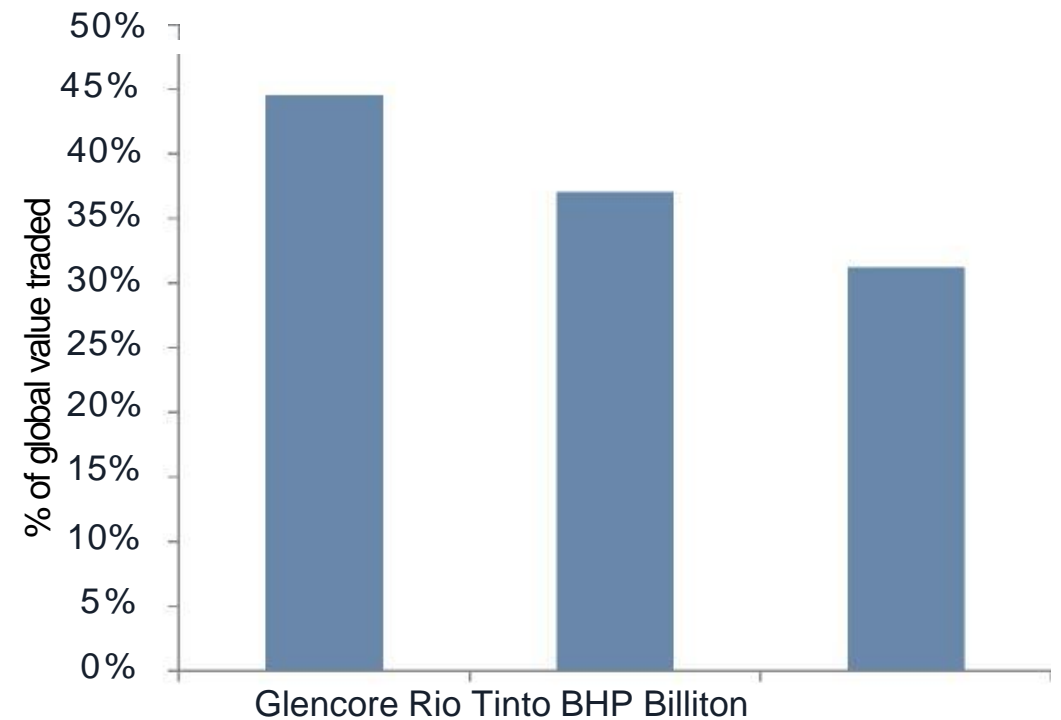


Average daily value traded of metals and mining companies over last 6 months (\$m)



On average, LSE mining companies experience many times more daily trading

LSEG venues and OTC reporting share of global liquidity (last month)



More value of the world's largest mining companies are traded on LSE than any other venue.

Regional Diversity of Investors

57% of value held in LSE Metals & Mining is international

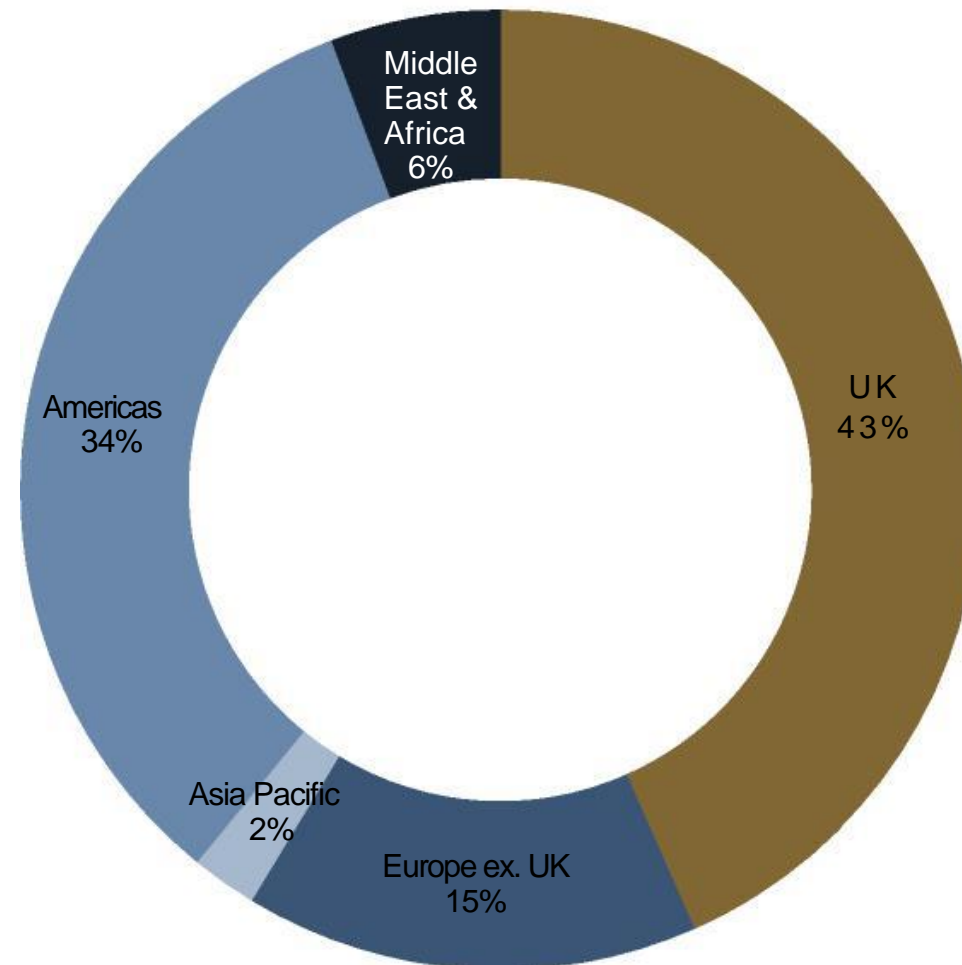


Top 5 European Institutional Investors

BlackRock Investment Management (UK) Ltd.
 Norges Bank Investment Management
 Legal & General Investment Management Ltd.
 JPMorgan Asset Management (UK) Ltd.
 Standard Life Investments Ltd.

Top 5 Asia Pacific Institutional Investors

Government Pension Investment Fund
 Aberdeen Asset Management (Asia) Ltd.
 Platinum Investment Management Ltd.
 Sumitomo Mitsui Trust Asset Management
 State Street Global Advisors (Japan) Co. Ltd.



Top 5 US Institutional Investors

The Vanguard Group, Inc.
 The Capital Group Cos., Inc.
 BlackRock, Inc.
 BPCE SA
 Elliott Capital Advisors LP

Top 5 ME & Africa Institutional Investors

Altshuler Shaham Ltd.
 Migdal Insurance & Financial Holdings Ltd.
 Psagot Investment House Ltd.
 Goldhar & Co. Ltd.
 Harel Insurance Investments & Financial Services Ltd.

The Shanghai–London Stock Connect

Two Countries in Partnership

UK-China Economic and Financial Dialogue outcomes

UK-China Joint Statement 2015 “Both sides support the Shanghai Stock Exchange and the London Stock Exchange to carry out a feasibility study on a stock connect.”

UK-China Joint Statement 2016 “Both sides welcome the substantial progress that has been made with the joint feasibility study on the Shanghai-London Connect conducted by the London Stock Exchange and Shanghai Stock Exchange. Both sides agree in the next step to proceed to research and prepare viable rules and implementation arrangements.”

UK-China Joint Statement 2017

“Both sides welcome the progress that has been made on preparation for viable rules and arrangements for the implementation of the Shanghai-London Stock Connect, conducted by the London Stock Exchange and Shanghai Stock Exchange.

Both sides agree to further research into realising the connect by listing on each other’s market **depository receipts** that represent shares from eligible issuers of listed companies in both markets. Both sides also welcome China and the UK regulators to work on **mutually agreed regulatory arrangements** on cross-border securities enforcement cooperation, accounting standards, and auditing supervision under the framework of the Shanghai-London Stock Connect. Both sides agree to **accelerate** the final preparations and to review, when conditions permit, the timeline for launching the London-Shanghai Stock Connect.”

A Two-Way DR Programme

A summary of the London-Shanghai Stock Connect mechanism

Depository receipts (DRs) are securities certificates issued by depository banks to represent a company's publicly traded securities which can be listed and traded independently from the underlying shares.

Traded Underlying Cleared & DR Bank Custodian on Securities Settled at

GDR (Global Depository Receipt)	LSE	A Shares already listed and traded on SSE	LCH, Euroclear Bank	Global bank	Member of ChinaClear
CDR (Chinese Depository Receipt)	SSE	Premium shares already listed and traded on LSE	ChinaClear	Chinese institution	Member of EUI

The Shanghai-London Stock Connect

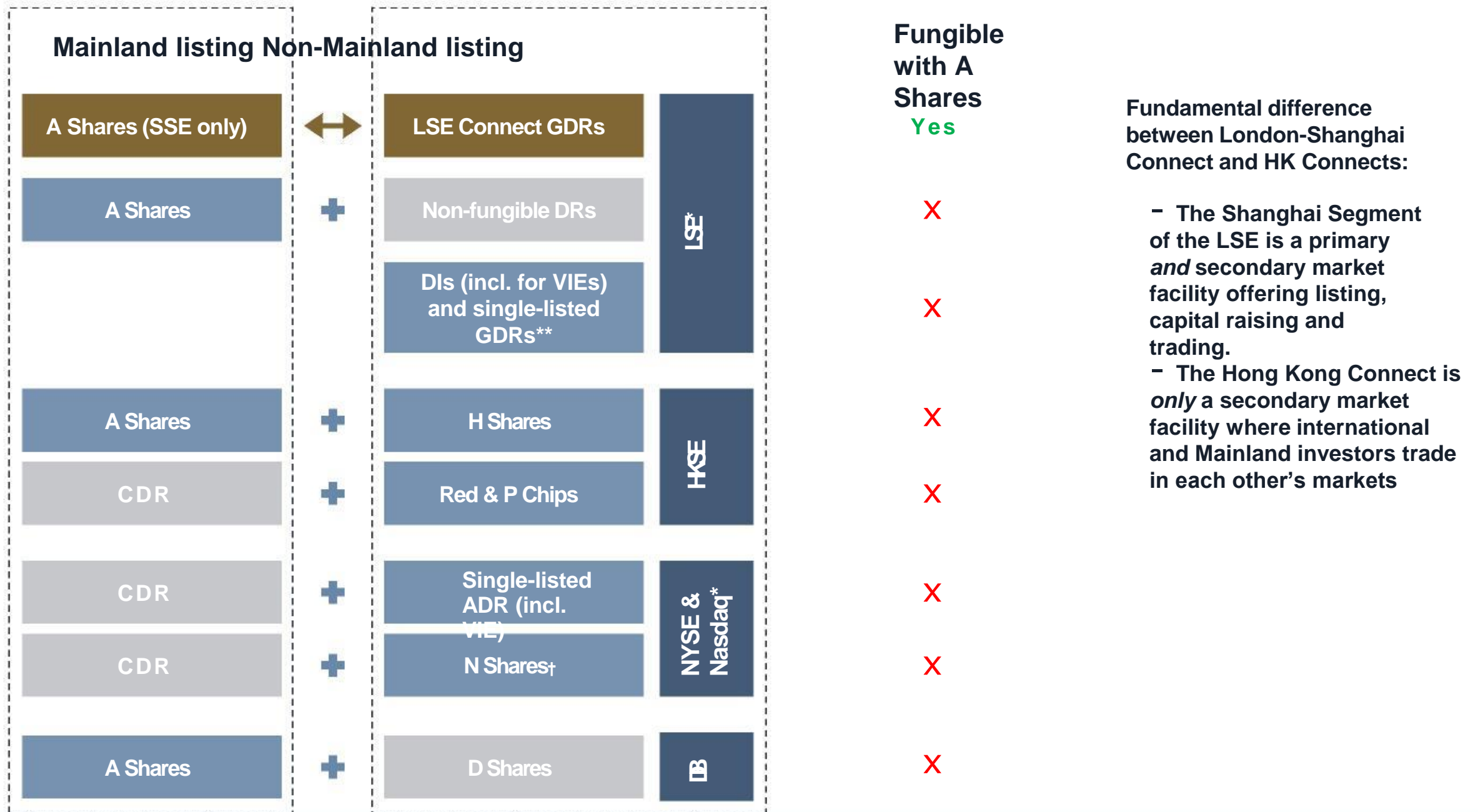
A comparison with other programmes



	QFII/RQFII Stock Connect	Hong Kong-Shanghai Shanghai - London Stock Connect	
Primary Market Activities	Not available	Not available	Initiated by mutual cross listings of issuers, either by capital raising or technical listing
Local Liquidity Pool	Not available	Not available	Investors can trade GDRs by Chinese issuers in London in USD, during London trading hours, under English laws and UK rules and vice-versa
Cross-border trading, clearing & settlement	One-way, executed between QFII/RQFII investors and their local Chinese brokers and custodians	Two-way, investors trade directly in each other's market, clearing and settlement centralised by HKSCC and CSDC	Two-way Designated Brokers can trade, clear and settle directly in each other's market.
Eligible traders and investors	Selected institutional investors	SSE Members, institutional investors and eligible individual investors Southbound, and HKEX members and their clients Northbound	SSE Members, institutional investors and eligible individual investors for CDRs, and LSE members and their clients GDRs
Eligible Securities	Shares, bonds and warrants listed in exchange, bonds listed in CIBM, stock futures and certain funds	Constituents of SSE 180 Index and SSE 380 Index, SZSE 500 Index and the SZSE S/M CII (>RMB6bn), and certain A+H shares Northbound, and constituents of HSLI, HSMI and HSSI (>HKD5bn), and certain A+H shares Southbound	DRs issued by companies in each other's markets
Quotas	Allocated to individual approved institutions	Quota applied to the whole market daily trading	A dedicated quota for cross border trading No quota applies for home market trading
Trading regime	Chinese rules apply	No intraday trading, limited short-selling, all trading subject to exchange rate, All trades pre funded. Chinese rules apply to cross border trading	Host rules apply to local trading - Home rules apply to underlying

Listing Options for Chinese Issuers

Comparing UK, Hong Kong, US and German listing solutions



* At present, Mainland China incorporated companies are listed in the UK but not in the US.

** This structure requires CSRC approval. No precedents are available.

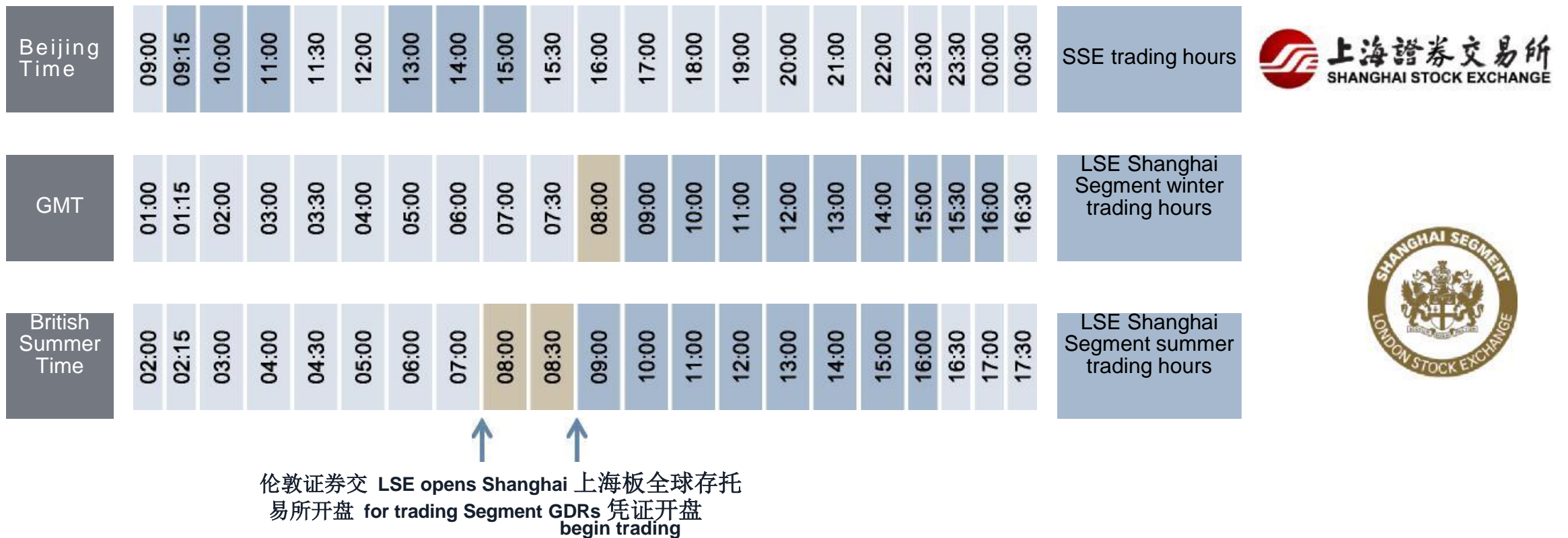
† Non-PRC incorporated shares listed in the US.

↔ = fungibility

Extending the Trading Day

Global trading hours for international investors

Trading hours for Shanghai-London Stock Connect issuers 沪伦通发行人的交易时间



英国夏令时期间, 上海板全球存托凭证开盘时间为上午9点, 比伦敦证券交易所开盘时间晚1小时, 1小时窗口期满足发行人在上海闭市后进行信息披露的需要。

GDRs admitted to trading on the Shanghai Segment open for trading at 9am, 1 hour after the London Stock Exchange opens for trading and 30 minutes after Shanghai trading ceases during British summer time. This provides a window which allows issuers to disclose when Shanghai is not open for trading.

Introducing the Shanghai Segment

Shanghai Segment

At the heart of the London Stock Exchange

Listing

EU Regulated market

Official list (maintained by UKLA)

Main Market



The image shows four circular logos for the London Stock Exchange, each featuring the Royal Coat of Arms. From left to right: Premium Main Market, Standard Main Market, GDR Main Market, and Shanghai Segment.


Additional Criteria*

- Already listed on Shanghai Stock Exchange
- CSRC follow-on offering approval
- New shares raised admitted to listing on SSE
- Minimum market capitalisation of RMB 20bn
- DR programme cannot exceed 10-15% of total share capital -
- Trading to open at 9am

Trading

Official list (maintained by UKLA)

International Order Book



The image shows two circular logos for the London Stock Exchange, each featuring the Royal Coat of Arms. From left to right: GDR Main Market and Shanghai Segment.

* Indicative requirements – confirmation pending

Your Route to Market

Standard Listing of GDRs on London's Main Market

Key eligibility requirements

- | | |
|---|--|
| Listing Rules | <ul style="list-style-type: none"> • Minimum 25% of DRs in public hands in one or more EEA States • Minimum market capitalisation GBP 700,000 • Free transferability of securities • Eligible for electronic settlement |
| Accounts | <ul style="list-style-type: none"> • 3 years of audited financial information (or such shorter period that the issuer has been in operation) • Latest accounts no more than 18 months old (if audited interims included) or 15 months old (if unaudited interims included). If accounts are older than 9 months, interims must be included. • EU IFRS or equivalent |
| Corporate Governance | <ul style="list-style-type: none"> • Domestic corporate governance code applies |
| Prospectus | <ul style="list-style-type: none"> • Prospectus approved by the UKLA |
| Admission & Disclosure Standards | <ul style="list-style-type: none"> • Compliance with the London Stock Exchange's Admission and Disclosure Standards |

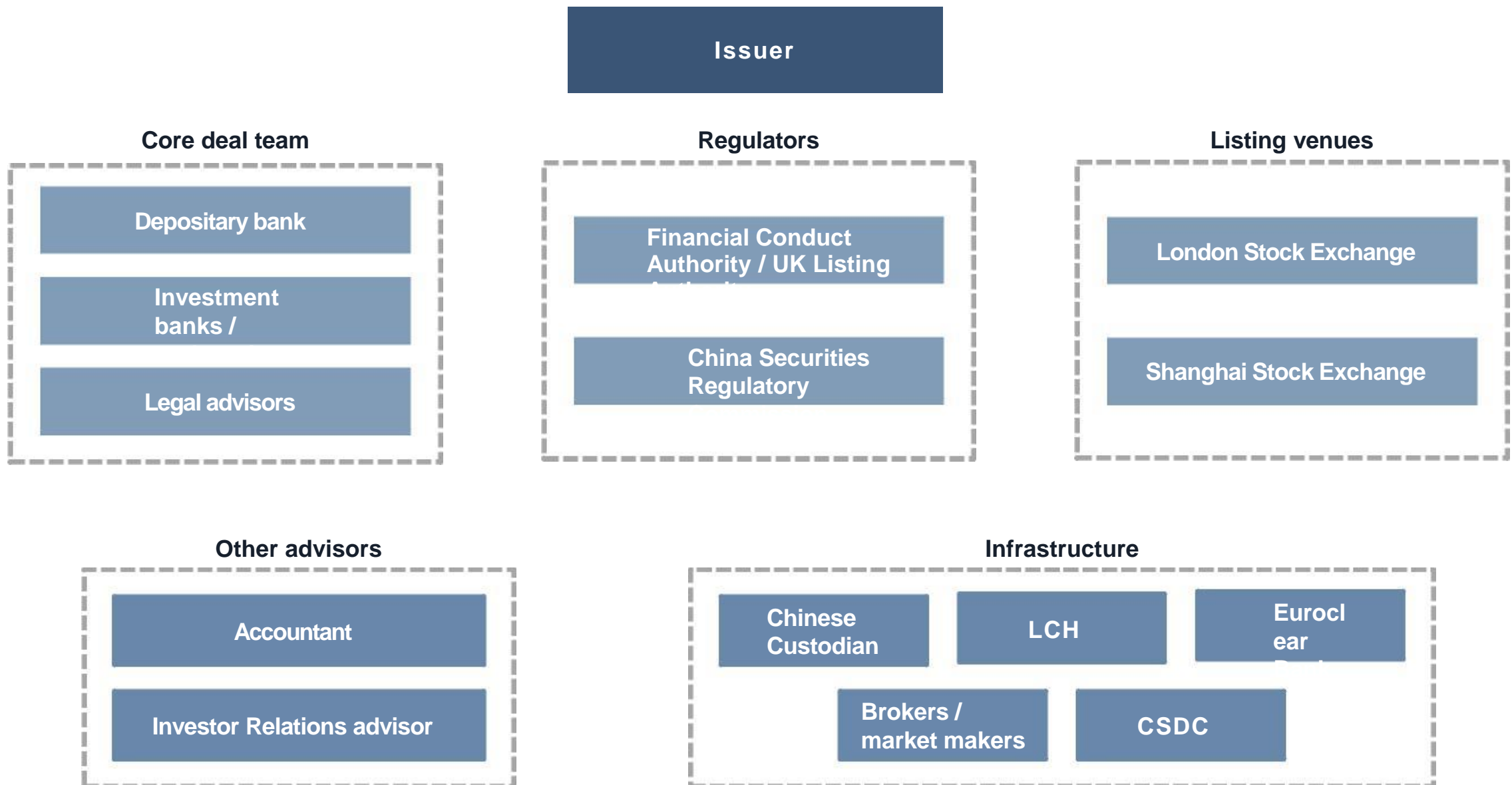
Key continuing obligations

- | | |
|--|--|
| Periodic Reporting | <ul style="list-style-type: none"> • Annual Report (four months after the end financial period) |
| Disclosure and Transparency Rules | <ul style="list-style-type: none"> • All documents/publications must be made in English • Maintaining the list of insiders • Inside information made public without delay* |
| Corporate governance | <ul style="list-style-type: none"> • Domestic Corporate governance applied • Corporate governance statement in the annual report |
| Headroom | <ul style="list-style-type: none"> • Total outstanding depositary receipts cannot exceed at any time the maximum amount specified in the Prospectus. • Further offerings subject to this limit do not require a new prospectus |

* Exceptions are made in certain circumstances

The Listing Process

Key parties in the admission process



GRD Trading on Shanghai Segment

Technical details for trading and cross-border flows

Trading GDRs on Shanghai Segment

- LSE Trading Rule Book applies
 - Settlement on T+2, no pre-funding and no pre-delivery requirements
- London trading hours – 09.00 to 16.30
- Trading Currency in USD with RMB and GBP options possible
 - All LSE International Order Book trading members eligible to trade on the Shanghai Segment
 - Clients and members able to use existing accounts and broker arrangements to trade our Connect GDRs
- Clearing through LCH and settlement in Euroclear Bank - Market making possible



GDR cross-border creation/redemption

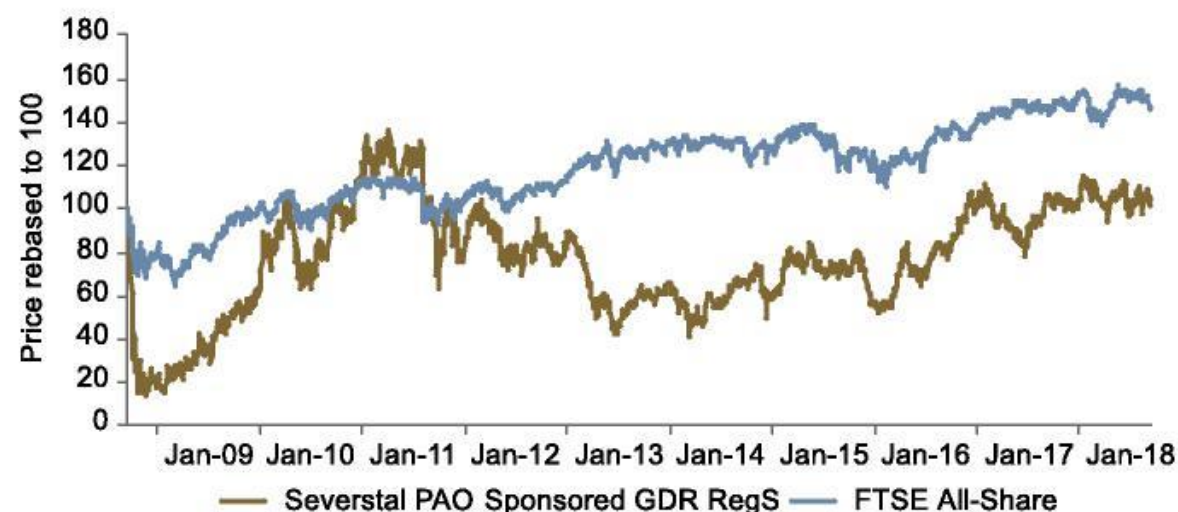
- Only selected designated brokers can create and redeem GDRs via cross-border transactions, with a dedicated quota
- UK Designated Broker to become clients of Chinese brokers.
 - FOP (free-of-payment) mechanism is in place in CSDC to allow shares to be transferred in and out of UK broker and DR bank's accounts for creation/redemption of GDRs.
- Home market rules apply when trading the underlying.
 - GDR cross-border settlement cycle closely aligned with T+2 to minimise frictions
 - To address differences in the settlement cycle, designated brokers will be able to hold cash, underlying shares as inventory in order to manage risk.

Severstal



Company name	Severstal
LSE market	GDR Main Market
FTSE ICB sector	Industrial Metals & Mining
Main country of operation	Russia
Admission date	08 November 2006
Money raised at admission	\$1,062.5 million
Market cap at admission	\$11,634.8 million
Current market cap	\$13,393.0 million
Nomad	Citigroup, Deutsche Bank, UBS

Severstal PAO Sponsored GDR RegS vs FTSE All-Share



“Our listing in 2006 was a significant milestone for Severstal, as the new requirement to comply with LSE regulation drove us to make significant and ongoing improvements across our business ”

Alexey Mordashov, Chairman

Top 5 Institutional Investors (value held \$m)

JPMorgan Chase & Co.	119.8
Van Eck Associates Corp.	51.0
Prudential Plc	47.1
ORIX Corp.	39.0
Cadre Invest SA	30.0

Listing Story

PAO Severstal, together with its subsidiaries, operates as an integrated steel and steel-related mining company worldwide. The company operates through Severstal Resources and Severstal Russian Steel segments.

Severstal raised \$1,062.5 million (EUR832.6 million) in 2006 by issuing 85,000 shares at \$12.50.

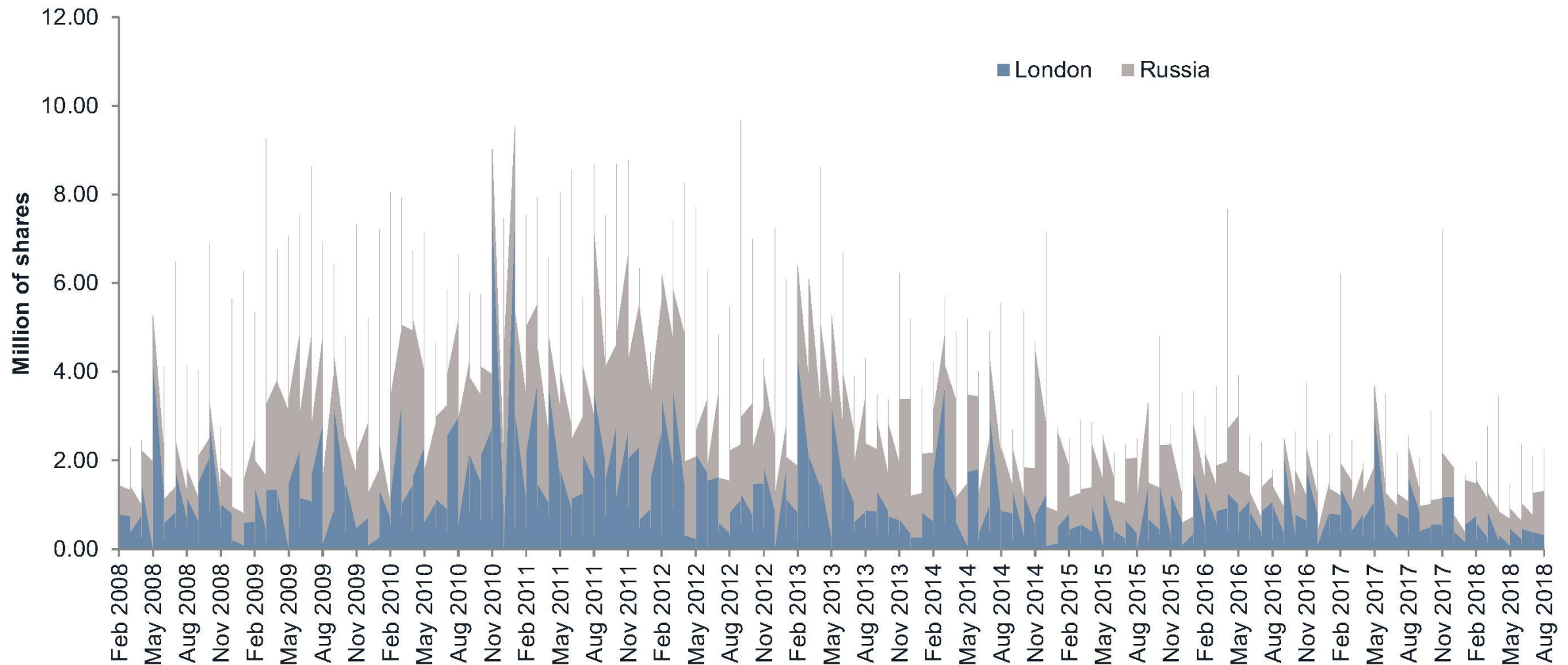
The proceeds from the initial public offering was used to reduce Severstal’s debt and strengthen its balance sheet as it prepares to pursue large mergers and acquisitions.

Severstal’s public offering was the second-largest in Russia after state oil firm Rosneft’s.

A Complementary Source of Liquidity

Severstal – London Stock Exchange does not cannibalise trading

The London listing increases liquidity in the home market by allowing international investor access.



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Fixed Income, UK Primary
Markets, London Stock
Exchange

The Trend of standards for Mineral Resources and Reserve Reporting in Mining Capital Market

Wang Shaobo
Ministry of Nature
Resources, PRC



The Trend of Standards for Mineral Resources and Reserve Reporting in Mining Capital Market



1. It is an inevitable requirement for the mining globalization that the comparison and communication among codes of reserves reporting in the mining capital market should be strengthened.



2. Development Trend of Standards for Reserve Reporting in Mining Capital Market



3. The research and application of the reserve reporting standards in China's mining capital market





The Trend of Standards for Mineral Resources and Reserve Reporting in Mining Capital Market

It is an inevitable requirement for the mining globalization that the comparison and communication among codes of mineral reserves reporting in the mining capital market should be strengthened.

with the implementation of the "Belt and Road" initiative, more and more Chinese companies are investing overseas in mineral resources development, and more and more overseas companies are trying to list in China. In this process, mining companies will face the problems in understanding and application of reference mineral resources classification and reporting standards, and its technical codes and guidelines as well as the qualification requirements and responsibilities of practitioners engaged in the estimation of mineral reserves in relative countries..

Therefore, the Committee for Mineral Resource International Reporting Standards (CRIRSCO) has been working to address these problems and has achieved remarkably progress. We very appreciate these significant results and will great supports for these endeavors .



2. Development Trend of Standards for Reserve Reporting in Mining Capital Market

In order to know more about the trend of mining globalization and promote the implementation of "Belt and Road" initiative, we have been carrying out a comparative study in recent years on the classification standards and reporting codes of reserves from major mining countries. Some important results have been achieved in this study. It is believed that the mineral reserves reporting codes of major mining countries have their own characteristics in the capital market, however, with the globalization of mining industry, the reserve reporting standards are tending to become more and more similarity. This is mainly reflected in the following three aspects:



The Trend of Standards for Mineral Resources and Reserve Reporting in Mining Capital Market

(1) The standards for mineral resources and reserves classifications in major mining countries are getting more comparable and similarity.

The British Institute of Mining Engineering put forward classification of mineral resources in 1902. It has been revised by the International Geological Conference and formed a classification framework that is based on the mining feasibility and the level of geological confidence.

After the 1930s, the classification developed into two major systems, one is the planned economy countries system with the former Soviet Union as a representative (including category A, B, C, D, and E), and the other is the market economy countries system represented by the United States.

Generally, the market economy countries system has two systems, one is formulated by the United States Geological Survey in 1980, and mainly used by the government in mineral resources administration, with more emphasis on resources other than reserves. The other, like JORC's system, is formulated by the organizations in the mining industry, with more emphasis on reserves than resources, and is adopted by capital market and the mining industry.



The Trend of Standards for Mineral Resources and Reserve Reporting in Mining Capital Market

(1) The standards for mineral resources and reserves classifications in major mining countries are getting more comparable and similarity.

Before 1999, China adopted the classification system of the former Soviet Union. In 1999, China, with reference to the classification systems of Geological Survey of United States and the JORC, formulated a mineral resources and reserves classification system under the framework of the United Nations reserve classification system. It has three categories: reserves, basic reserves, resources and 16 sub-types of reserves.



The Trend of Standards for Mineral Resources and Reserve Reporting in Mining Capital Market

CCMR-1999 CLASSIFICATION TABLE

Table 1 Classification Codes (CCMR-1999)

Economic Status	Geological confidence Level			
	Measured	Indicated	Inferred	Reconnaissance
Economic	Extractable Reserves (111)	4 categories		
	Reserves Base (111b)			
	Pre-Extractable Reserves (121)	Pre-Extractable Reserves (122)		
	Reserves Base (121b)	Reserves Base (122b)		
Marginal Economic	Reserves Base (2M11)			
	Reserves Base (2M21)	Reserves Base (2M22)		
Sub-Marginal Economic	Resources (2S11)			
	Resources (2S21)	Resources (2S22)		
Intrinsic Economic	Resources (331)	Resources (332)	Resources (333)	Resources (334)?

4 classes



The Trend of Standards for Mineral Resources and Reserve Reporting in Mining Capital Market

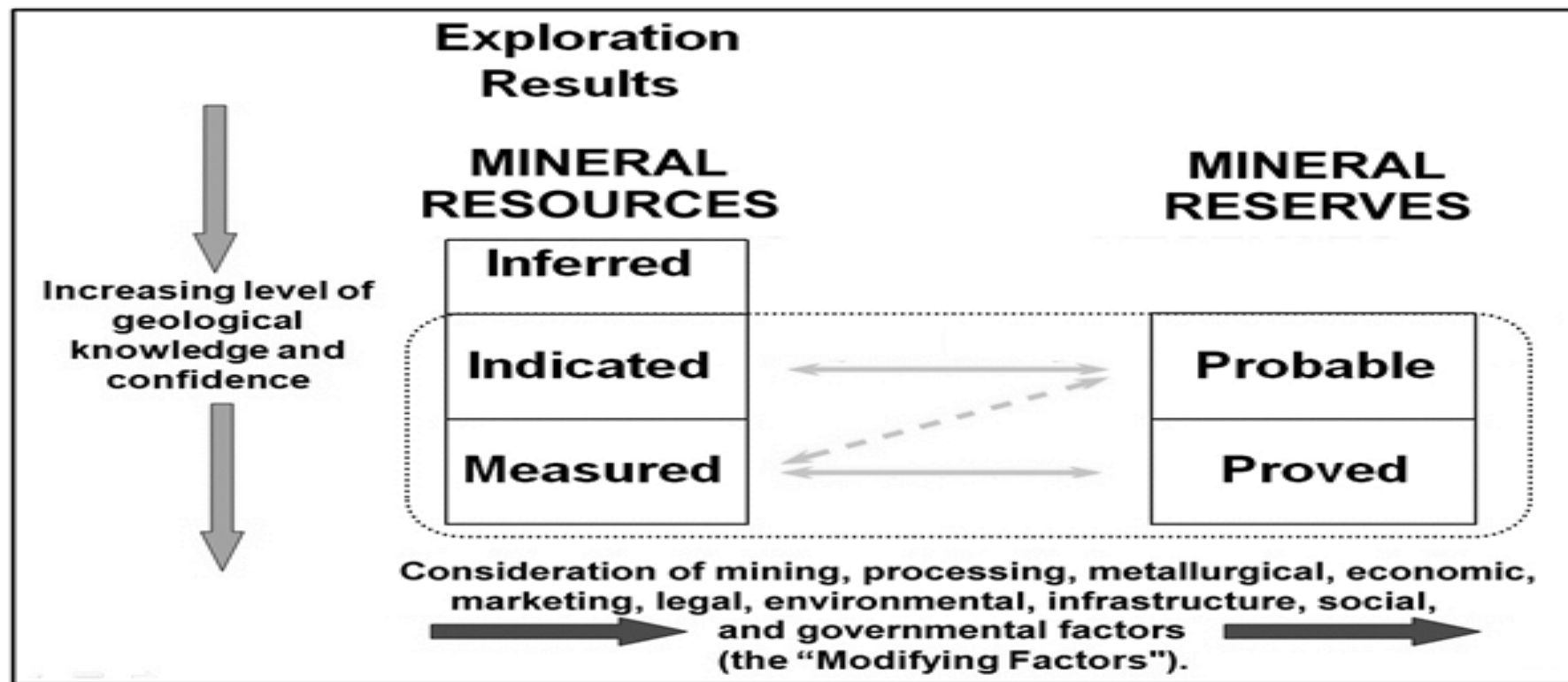
Mapping between Chinese Classification and CRIRSCO Classification

Chinese Classification			CRIRSCO Classification		
Category	Sub-Category	Class	Category	Class	
Mineral Reserves	Economic	(111)	Mineral Reserves	Proved	
		(121)		Probable	
		(122)			
Basic Reserves		Marginal Economic	(111b)	Not defined in CRIRSCO Template	
			(121b)		
			(122b)		
	Sub-Marginal Economic	(2M11)			
		(2M21)			
		(2M22)			
Mineral Resources	Sub-Marginal Economic	(2S11)	Mineral Resources	Measured	
		(2S21)		Indicated	
		(2S22)		Inferred	
	Intrinsic Economic	(331)	Exploration Results		
		(332)			
	(333)				
	(334) ?				



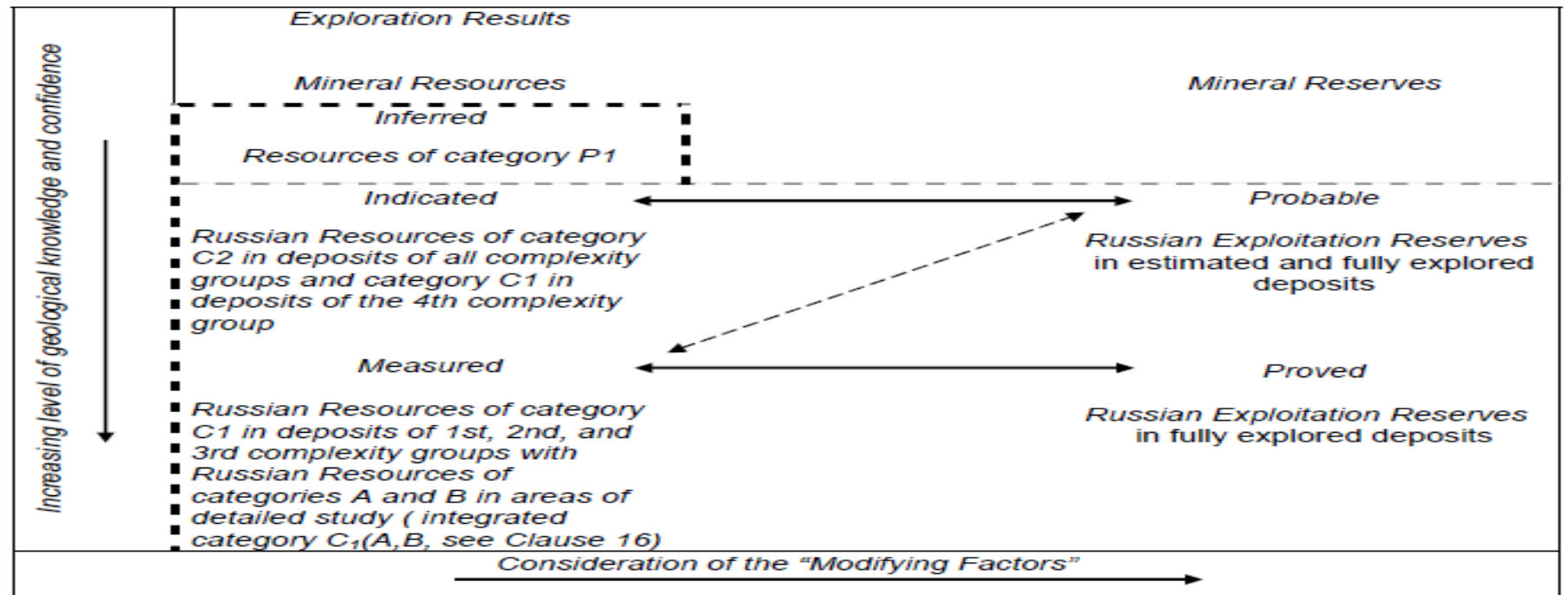
The Trend of Standards for Mineral Resources and Reserve Reporting in Mining Capital Market

Relationship of mineral resources classifications of CCMR-1999 and CRIRSCO



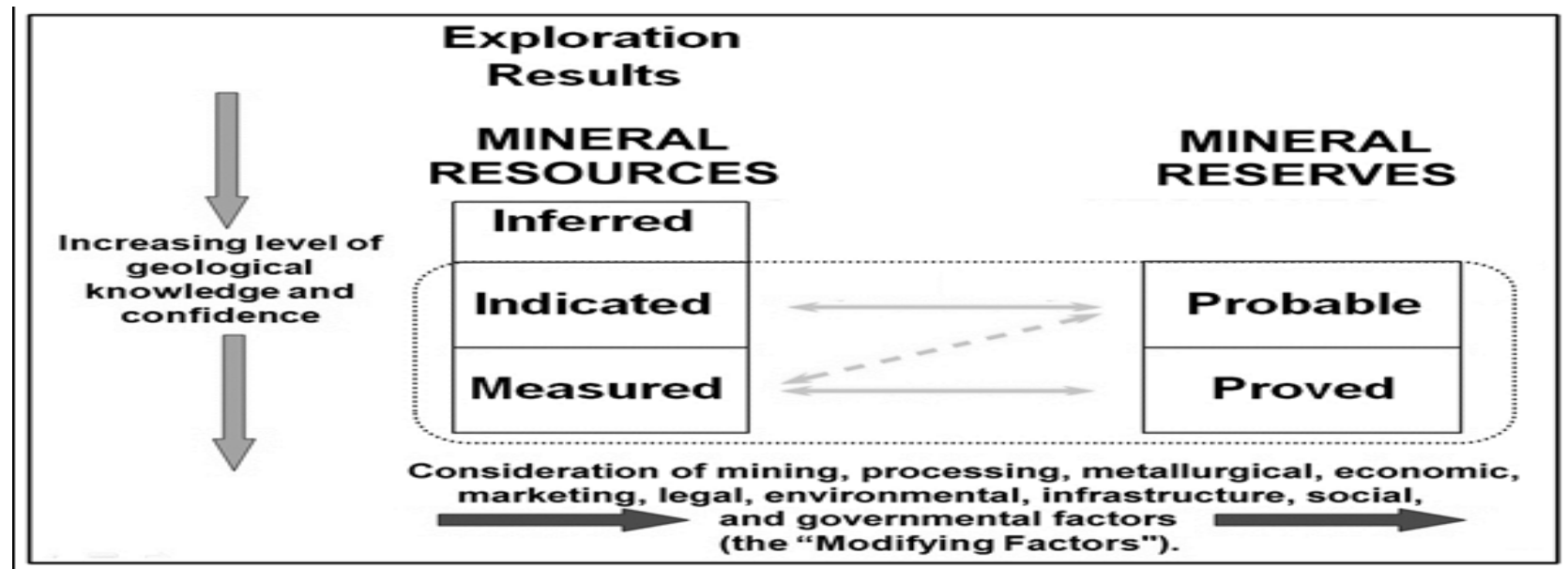
The Trend of Standards for Mineral Resources and Reserve Reporting in Mining Capital Market

Relationship of mineral resources classifications of Russia and CRIRSCO



The Trend of Standards for Mineral Resources and Reserve Reporting in Mining Capital Market

CIM Classifications and definitions on Mineral Resources and Reserves
CIM Classification and definitions on Mineral Resources and Reserves established in 2004 and amended in 2004, 2010 and 2014 respectively to be current version. Its classifications and definitions are basically consistent with other CRIRSCO member countries.



The Trend of Standards for Mineral Resources and Reserve Reporting in Mining Capital Market

The Classification System of Bureau of Mines / Geological Survey United States (USBM/USGS-1980) is used to collect, monitor, analyze the state of natural resources and related issues for the U.S. government's energy planning, conservation and management services. the classification framework of USBM/USGS-1980 system is as follows:

RESOURCES OF (commodity name)
 [A part of reserves or any resource category may be restricted from extraction by laws or regulations (see text)]
 AREA: (mine, district, field, State, etc.) UNITS: (tons, barrels, ounces, etc.)

Cumulative Production	IDENTIFIED RESOURCES		UNDISCOVERED RESOURCES	
	Demonstrated		Probability Range	
	Measured	Indicated	Hypothetical	Speculative
ECONOMIC	Reserves		Inferred Reserves	
MARGINALLY ECONOMIC	Marginal Reserves		Inferred Marginal Reserves	
SUB-ECONOMIC	Demonstrated Subeconomic Resources		Inferred Subeconomic Resources	
Other Occurrences	Includes nonconventional and low-grade materials			

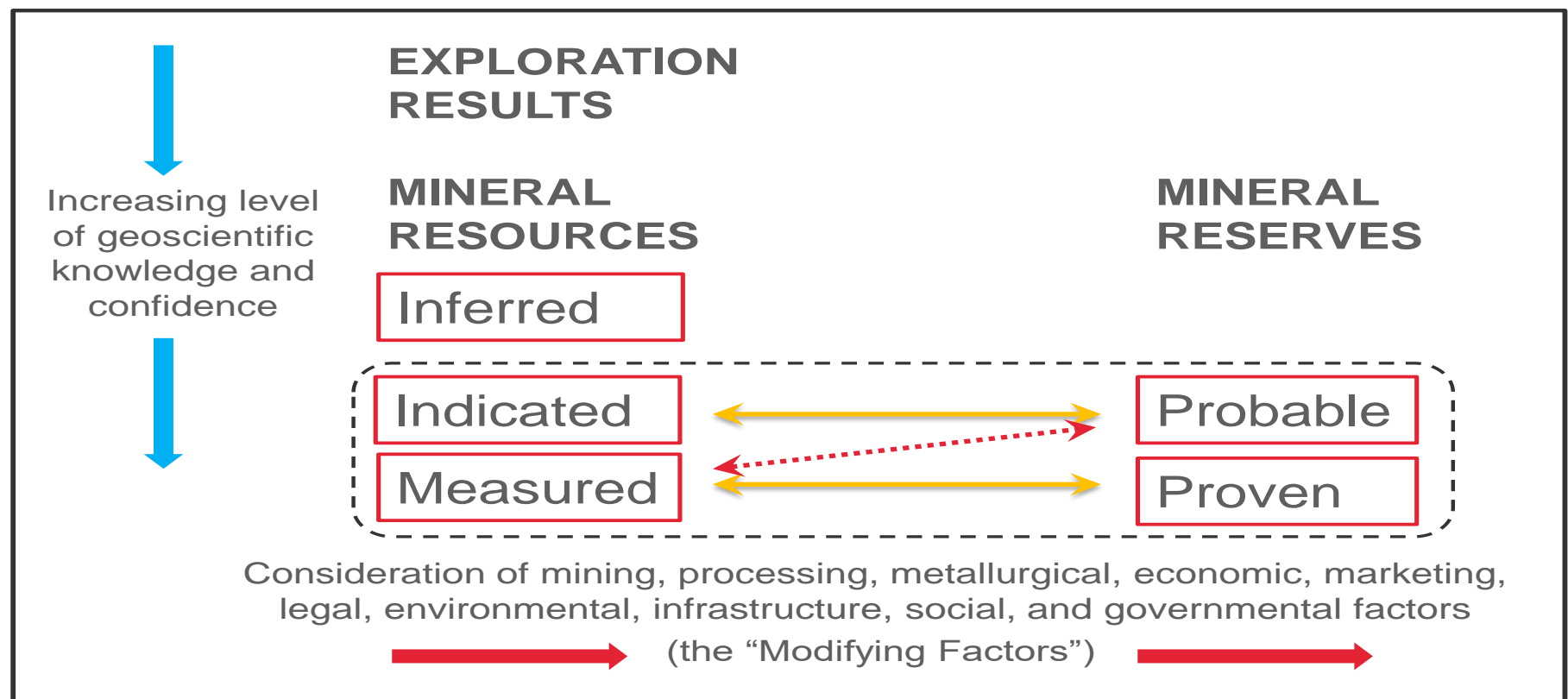
Author:

Date:

FIGURE 1. – Major elements of mineral-resource classification, excluding *reserve base* and *inferred reserve base*.

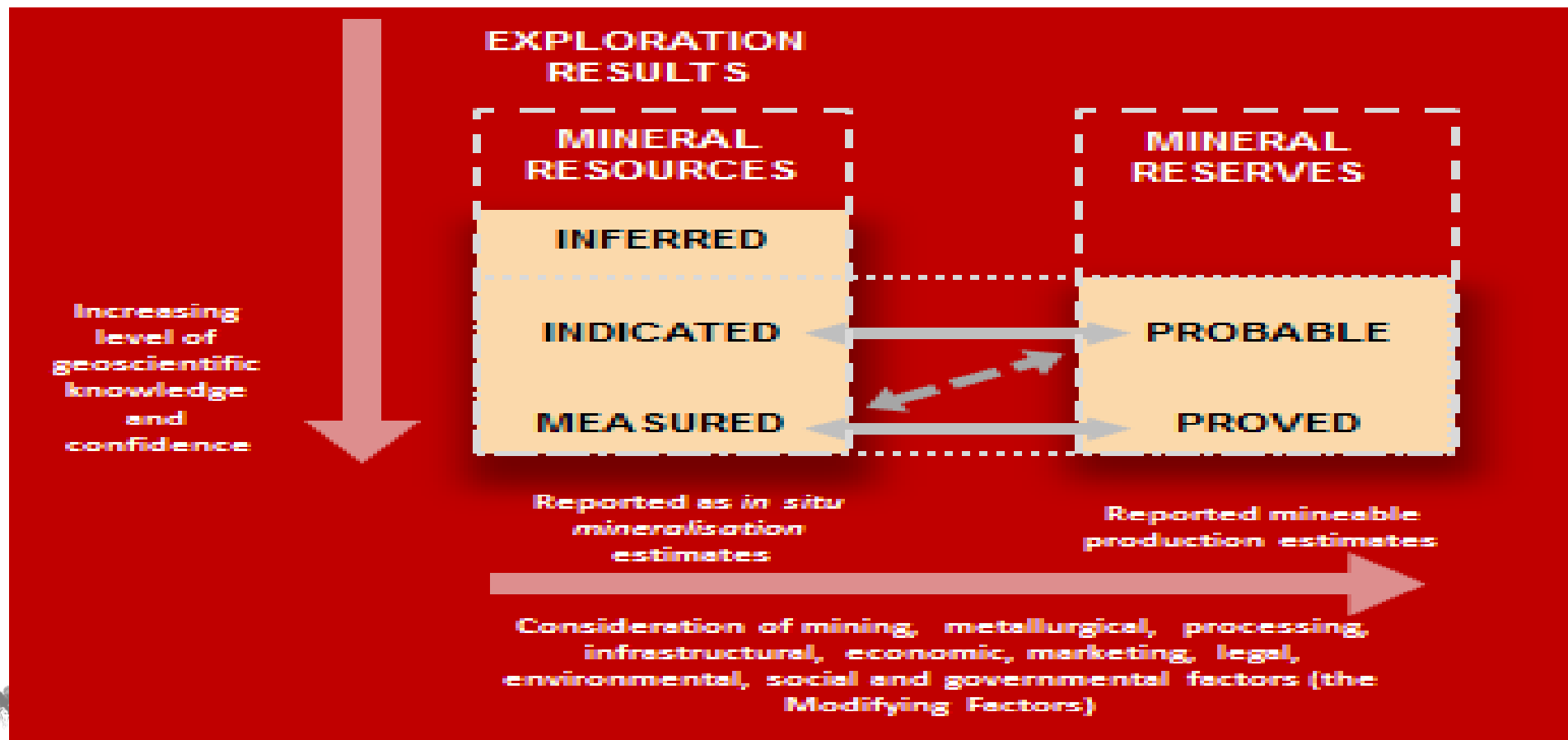
The Trend of Standards for Mineral Resources and Reserve Reporting in Mining Capital Market

General Relationship between Exploration Information, Mineral Resources and Mineral Reserves (SME)



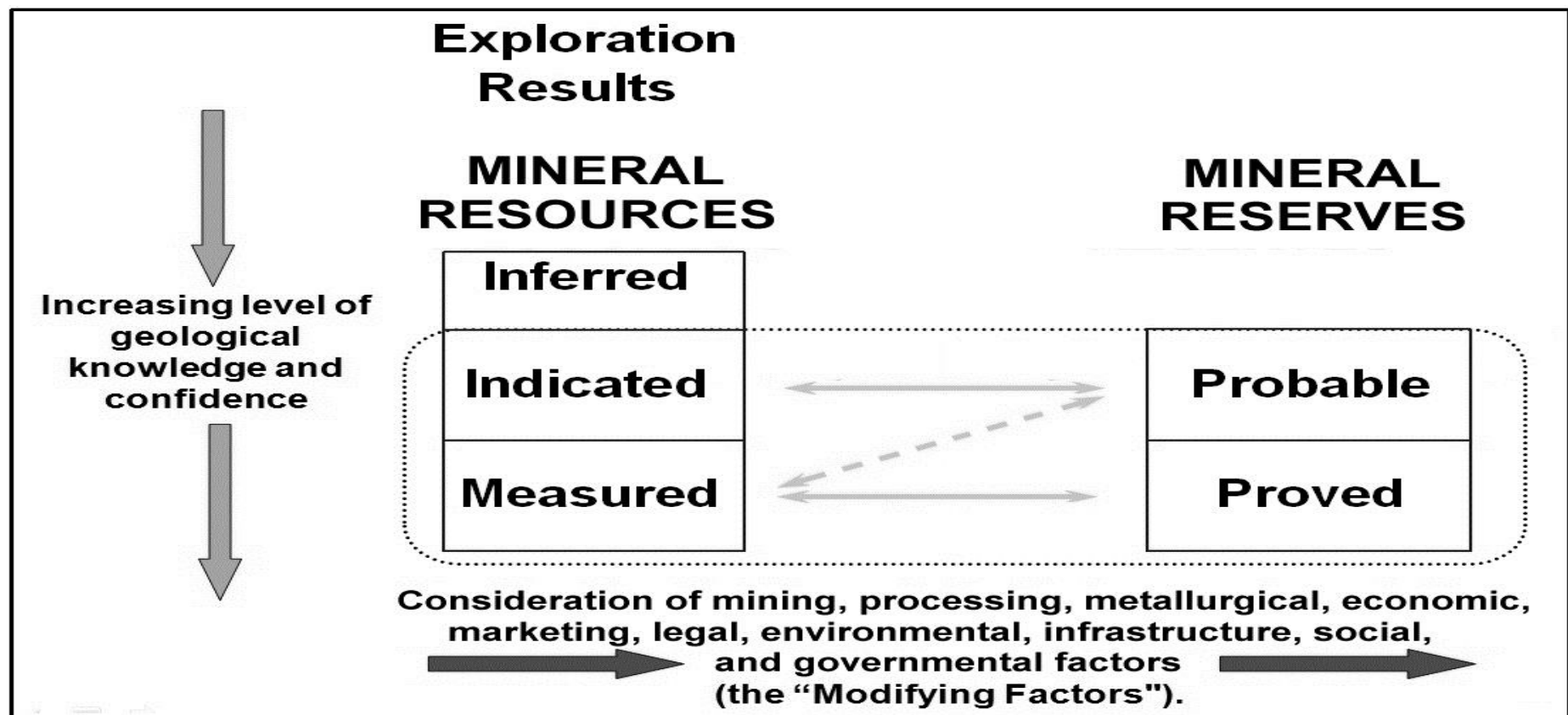
The Trend of Standards for Mineral Resources and Reserve Reporting in Mining Capital Market

Relationship between Exploration Results, Mineral Resources and Mineral Reserves (SAMREC)



The Trend of Standards for Mineral Resources and Reserve Reporting in Mining Capital Market

General relationship between Exploration Results, Mineral Resources and Mineral Reserves (Pan-Europe)





The Trend of Standards for Mineral Resources and Reserve Reporting in Mining Capital Market

(2) The requirements and responsibilities of reserves reporting persons are becoming more similar.

(I) Responsibilities for authenticity of basic data, reports preparation ,and estimation results for resource reserve reporting Between China and CRIRSCO

	Responsibilities for authenticity of basic data	Responsibilities for the preparation process	Responsibilities for estimation results
China	Mining right holders, exploration companies, professional personnel	Mining right holders, exploration companies, professional personnel	Mining right holders, exploration companies, professional personnel
CRIRSCO	Qualified persons	Qualified persons	Qualified persons



The Trend of Standards for Mineral Resources and Reserve Reporting in Mining Capital Market

(II) The codes for resource reserve estimations and reporting for disclosure of reserves in China, Canada, Australia

	Canada	CRIRSCO Australia	China
Documents for Standards, Template	rules for the disclosure of reserves, CIM DEFINITION STANDARDS - For Mineral Resources and Mineral Reserves	AUSTRALASIA CODE FOR REPORTING OF EXPLORATION RESULTS, MINERAL RESOURCES AND ORE RESERVES (JORC Code)	Classifications of Solid mineral resources and reserves
	Estimation of Mineral Resources and Mineral Reserve Best Practices Guidelines		General Rules of Specifications for Solid Mineral Exploration; Specifications for Compiling Geological Reports on Solid Mineral Exploration/Mine Closure; <Provisions for Compiling Verification Reports on Solid Mineral Resources Reserves
	Mineral exploration Best Practices Guidelines		
Regulatory Documents	National instrument NI43-101: STANDARDS OF DISCLOSURE FOR MINERAL PROJECTS	Chapter 5: reporting on mining, oil and gas production and exploration activities	Measures for the evaluation and determination of mineral resources and reserves; Disclosure guidelines Industrial Information for listed companies No. 3-Coal; Disclosure Guidelines Shenzhen Stock communication Industry Information No. 2 - Listed companies engaged in solid mineral resources related business.
	Form 43-101F1 technical reports	Guidance Note 31: Reporting on Mining Activities	
	COMPANION POLICY 43-101CP	Not defined	
	Disclosure Standards for companies engaged in mineral exploration ,development and production	none	
Documents for estimation	STANDARDS AND GUIDELINES FOR VALUATION OF MINERAL PROPERTIES (by CIMVAL)	The VALMIN Code	Guidelines for the Evaluation of Mining Rights in China (2011)



The Trend of Standards for Mineral Resources and Reserve Reporting in Mining Capital Market

(3) The review and audition by the third party to the reserve reports tends to be strengthened in western countries, and to be deregulated in China

In China, the review and filing system is adopted for reserves reporting now. China is gradually deregulating from the past examination and approval system to the current review and filing system.

In Canada, the company generally appoints a qualified person in the company, and invites a third- party qualified person, to review the report. After reporting publicly, peers will evaluate and discuss it , securities institutions ,as well as the users of the report will organize experts to review the reports.

In Australia, the company generally appoints a qualified person in the company and invites a third- party qualified person to review the report. After reporting publicly, peers will evaluate and discuss it (recommended by cod), and the users of the report would organize experts to review the report.



3.The practice of the reserve reporting standards in China's mining capital market

(1) The development of Chinese reserve classification standards and reporting codes

(I) in the 1950s, China, with reference to the practices of some countries, established a systematic classification standard for mineral reserves used in mineral exploration, mine design and production.

(II) In the 1970s, China has established its own classification system for mineral reserves, codes for the exploration, and specific technical codes and regulations.

(III) in 1999 This standard China formulated a new classification standard system to meet the needs of a market economy and its opening policy.

Now that the standards have been implemented in China and widely used by mineral prospectors, mine designers, mine producers and government administrators, as well as in the mining capital market.



3.The practice of the reserve reporting standards in China's mining capital market

(2) The progress in international communication of reserves reporting standards in recent years

China implements the opening policy to the outside world and attaches importance to the cooperation and communications with foreign countries in mining activities. Thus, we have been organizing programs for the study and revision of the existing reserves classification standards, and carried out more comprehensive and more intensive communication and cooperation with international counterparts in the formulation and implementation of the mineral resources and reserves reporting standards.



3.The practice of the reserve reporting standards in China's mining capital market

(2) The progress in international communication of reserves reporting standards in recent years

(I) The comparison of reserves classification systems has been developed between China and the United Nations , and a comparative conversion document has been produced and released jointly in this month.



3. The practice of the reserve reporting standards in China's mining capital market

(2) The progress in international communication of reserves reporting standards in recent years

(II) A great deal of preparatory work has been launched for joining the CRIRSCO. Through the research on information disclosure codes and related technical standards of listed mining companies, the mineral reserve standards have been established that can be compatible with the CRIRSCO. From the comparative study, it is concluded that the differences between them at the operational level are greater than the standards themselves. In order to better and more deeply understand the differences between the two systems at the specific operational level, a typical case study has been done, in which seven mines listed at home and abroad have been selected. According to the evaluation and estimation results by two systems of resource reserves, the differences at some operational level have been compared to make in-depth analysis of the reasons behind.



3. The practice of the reserve reporting standards in China's mining capital market

(2) The progress in international communication of reserves reporting standards in recent years

(III) Analyses have been carried out to the disclosure codes of mineral resources and reserves from several countries' capital markets in order to understand their characteristics as deeply as possible, and obtain some good experiences that China may learn for.



3.The practice of the reserve reporting standards in China's mining capital market

(2) The progress in international communication of reserves reporting standards in recent years

(IV) Next, we will take the opportunity of joining CRIRSCO to continue the comparative research and international communication in reserve reporting codes in the capital market , and work together with our international counterparts to promote the implementation of Belt and Road's initiative and the globalization of the mining industry.





Thank You !



Listing GDRs in London – Legal Practicalities

Chris Horton and
Simon Ovenden
Simmons & Simmons

Overview

- Eligibility for listing in the UK
- The GDR listing process and timetable
- Prospectus content requirements
- Competent person's report
- Financial information requirements
- Continuing obligations

Listing eligibility in the UK

Criteria	Shares		GDRs
	Main Market – Premium Listing	Main Market – Standard Listing	Main Market – Standard Listing
Compliance with LSE’s Admission and Disclosure Standards	✓	✓	✓
Minimum free float	25% of Shares		25% of DRs
Minimum market cap	£700k		
Audited historical financial information in IFRS or equivalent standard	3 years		3 years / since in operation
75% revenue earning record for the 3 year period	✓ (1)	x	x
Independent business as main activity	✓ (2)	x	x
Working capital statement	✓ (must be clean)	✓	x
Controlling shareholder requirements	✓	x	x
Sponsor required	✓	x	x

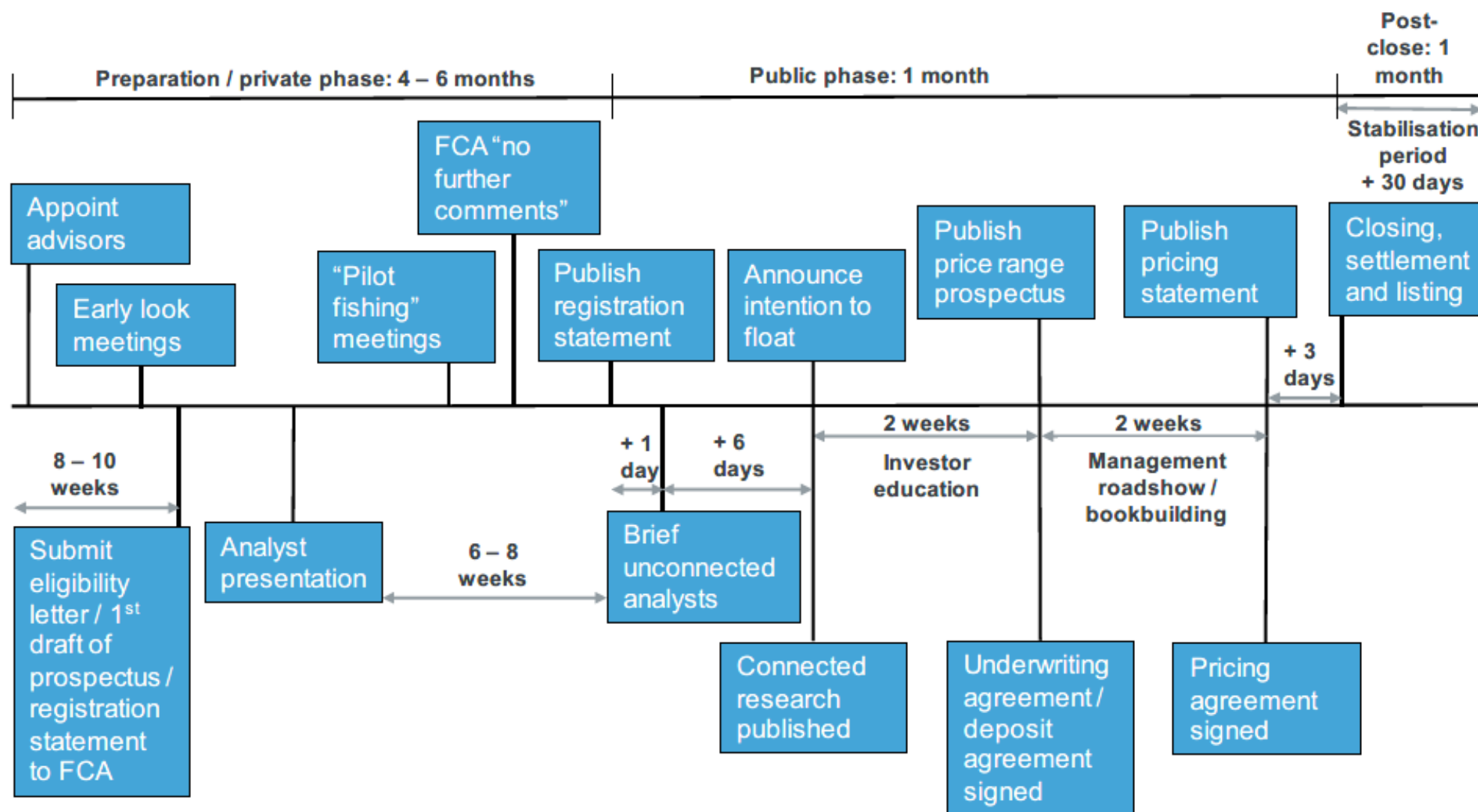
Notes:

(1) Mineral companies are not subject to the usual premium listing eligibility requirements for: (i) 3 year track record, (ii) control of majority of assets, (iii) independent business

(2) For premium listing, must also demonstrate direct interests in mineral resources and rights to participate in their extraction

- Generally, no requirement for underlying shares to be listed on an exchange, but for the Stock Connect program, shares must be admitted to SSE

The listing timeline



- If undertaking a research analyst presentation in connection with the listing, keep in mind 2018 IPO reform rules in the UK requiring access to management by “unconnected” (i.e., non-syndicate) research analysts

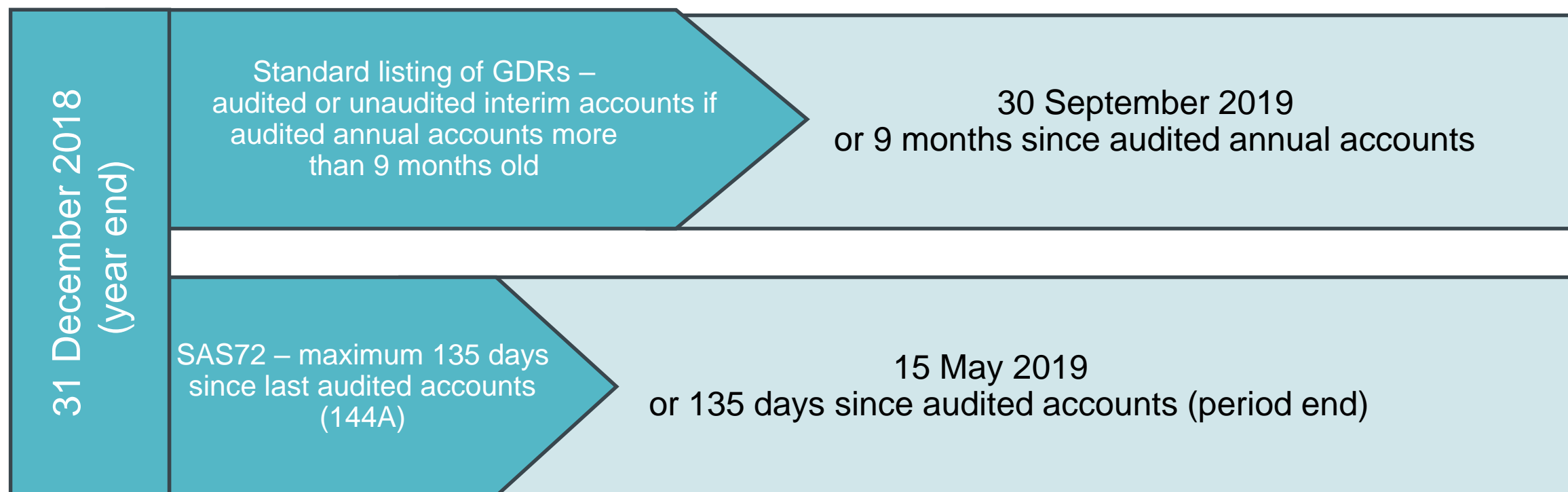
Prospectus contents

- Before GDRs listed, a prospectus must be approved by the UK Listing Authority (the “UKLA”)
 - UKLA reviews for compliance with the Prospectus Rules and for eligibility for listing
- Contents determined by FSMA (S87A), Prospectus Rules (PR2.3.1), and ESMA guidance:
 - information about the company and business description
 - operating and financial review (“OFR”)
 - audited financial statements
 - information on the underlying shares (currency, legislation under which created, bearer / non-bearer)
 - information on GDRs (including details of depositary)
 - capital resources
 - directors, senior management and employees
 - major shareholders
 - related party transactions
 - risk factors
 - reasons for the offer and use of proceeds
- No need to “comply or explain” with UK Corporate Governance Code (“UKGC”), but in practice investors expect the committees, independent directors and independence agreement for controlling shareholders

Prospectus – Competent person’s report

- Mineral company prospectus must include a competent person’s report (“CPR”) describing mineral reserves and resources:
 - details of reserves and expected period of working of these reserves
 - terms of main concessions/licences
 - funding requirements and cash flow for next 2 years
 - auditors
- Competent persons reports subject to ESMA guidelines
- Responsibility under the Prospectus Rules (PR 5.5) – includes someone who has authorised the contents of the prospectus (all or part)
- Public display of report
- Engagement letters and liability
- Market practice to get legal opinions to title for assets / liabilities

Prospectus - age of historical financial information



- Latest accounts no more than 18 months old (if audited interims included) or 15 months old (if unaudited interims included). If accounts are older than 9 months, interims must be included
- Historical financial information needs to be produced under IFRS, except that a foreign company whose home jurisdiction's standards are deemed by the EU to be equivalent to IFRS Standards may use its home standards.
 - Chinese Accounting Standards granted “equivalent status to IFRS” in 2008
 - However, to consider reconciliation to IFRS for purposes of marketing to EU / US investors

Continuing obligations

Obligation	Main Market – Standard Listing of DRs
Annual financial report – DTR 4	✓ (4 months after year end)
Half-yearly financial report – DTR 4	✗ (GDR issuers exempt)
Accounts in IFRS or equivalent (including Chinese Accounting Standards) – DTR 4	✓
MAR compliance (disclosure of inside information, insider lists, PDMR deal disclosures)	✓ (PDMR requirements apply to GDR issuers under MAR)
Major shareholder notification regime – DTR 5	✗ (GDR issuers exempt)
Corporate governance	Corporate governance statement required in annual report (DTR 7.2), but domestic corporate governance code applies
Shareholder approval for significant transactions (Class Tests)	✗
Related party transaction rules	✗
Headroom for further issues	Total outstanding depositary receipts cannot exceed at any time the maximum amount specified in the Prospectus ⁽¹⁾
Transfer between listing categories	No GDR holder approval required
Cancellation	No GDR holder approval required
Sponsor or NOMAD required	✗

(1) DRs representing total issued underlying share capital at the date of the GDR prospectus approval can be issued

Any questions?



Chris is a partner in the corporate and commercial group in London and leads the ECM team at Simmons & Simmons. Chris has worked on many London IPOs and has a broad range of experience advising on cross-border ECM and M&A transactions. He previously spent two years working in the ECM execution team at a leading investment bank. Chris is named as a leading individual for UK ECM in the 2017 edition of the Legal 500 and is highly recommended and described as "*really impressive*". Chambers UK has also recognised Chris and describe him as a "*straight-talking*" adviser who "*balances his advice suitably with commercial awareness*" and has "*a good connection to bank-side work*" and that he "*offers extensive expertise advising on cross-border transactions*".

Key experience includes advising:

- **Jefferies, J.P. Morgan Cazenove and Numis** on the £1.2bn IPO of **AO.com**
- **Numis** as sole sponsor, global co-ordinator and bookrunner on the Main Market IPO of **On The Beach Group plc**
- **Matomy Media Group Ltd** on its IPO and admission to the High Growth Segment of the London Stock Exchange
- **J.P. Morgan Cazenove and Oriel Securities** on a £170m placing by Terrace Hill Group Plc and on its £95m acquisition of Urban&Civic plc as well as its step up from AIM to the Main Market
- **Rothschild** as joint sponsor and financial adviser and **Evolution Securities** and **Peel Hunt** as joint sponsors and brokers to Wichford PLC on its £208.7m reverse takeover of Redefine International plc
- **J.P. Morgan Cazenove and Numis** on a £170m placing by **The Unite Group plc**
- The AIM IPOs of **Circle Holdings plc, Ishaan Real Estate plc** and **Sirius Real Estate Limited**
- **J.P. Morgan Cazenove, BofA Merrill Lynch** and **Goldman Sachs** on the **BT group plc** £12.5bn acquisition of EE and £1.0bn placing
- **J.P. Morgan Cazenove** as sponsor on the demergers of Petrofac's and Lundin's North Sea oil and gas assets and **J.P. Morgan Cazenove** as sponsor, sole global co-ordinator and sole bookrunner and joint lead manager, Nordea Markets as joint lead manager and **Oriel** and **RBC** as co-lead managers on the introduction of **EnQuest PLC** to the Main Market

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Simon has more than 30 years' experience representing underwriters, corporate and sovereign issuers and financial institutions in issuances of debt and equity securities with a particular focus on emerging markets. In recent years Simon has been advising on a wide range of debt and equity transactions for issues and underwriters in CIS, Middle East and Europe.

Simon has worked on numerous GDR issues since the early 1990s by issuers incorporated in India, Pakistan, Russia, Lebanon, Egypt and South Korea.

Key experience includes advising:

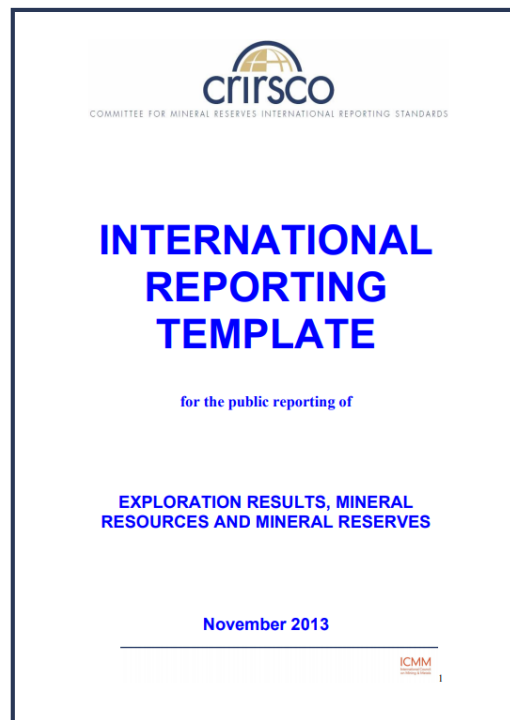
- advising **America Movil S.A.B de C.V.** on a €3bn Exchangeable Bond issue, the largest ever equity linked bond for a corporate issuer
- advising the bookrunners on the privatisation of **HBL**, the largest ever equity capital markets transaction in Pakistan

The benefits of the CRIRSCO market related reporting systems

Ken Lomborg,
Vice Chairman,
CRIRSCO

Why was CRIRSCO created?

"To promote International Best Practice in the Reporting of Mineral Exploration Results, Mineral Resources and Mineral Reserves"



Provides the framework for a required minimum standard for the Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves

Relevant to all solid minerals

Global reach, providing a single view



Why is CRIRSCO necessary?

The mining industry – an international business and a vital contributor to national and global economies;

Based on depleting mineral assets - known before extraction.



Requires clear communication of risks – depends on confidence of investors and financial stability.



Mines are based on

- Depleting Assets
- Imperfect knowledge prior to the commencement of extraction

Developing a mining project or mine involves

- Technical expertise
- Substantial capital investment
- Long term investment
- Carries numerous risks



In Australia in 1960's concern about unacceptable reporting practices - the so-called "**Poseidon nickel boom and bust**"

Australian Stock exchanges responded with proposal to self-regulate, resulting in the Australasian Joint Ore Reserves Committee (JORC) established 1971

In February 1989, JORC released the first version of the JORC Code

US reporting code derived from Hoover's work in the 1930's published initially by US Geological Survey now SEC Industry Guide 7

Events during the 1990's such as the **BreX affair** (1997) cause re-examination by the regulatory bodies

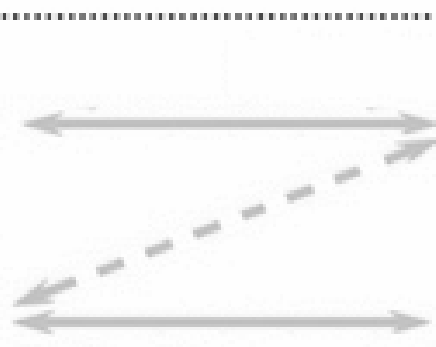
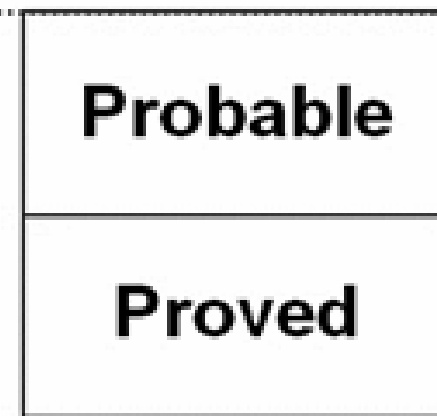
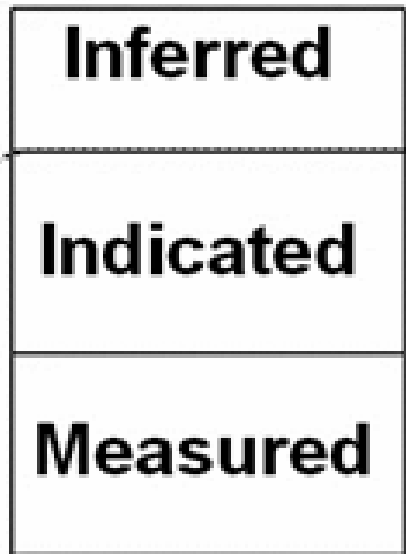


Exploration Results

MINERAL RESOURCES

MINERAL RESERVES

Increasing level of geological knowledge and confidence



Consideration of mining, processing, metallurgical, economic, marketing, legal, environmental, infrastructure, social, and governmental factors (the "Modifying Factors").

STANDARD DEFINITIONS

Public Reports

Competent Person

Exploration Target

Exploration Results

Mineral Resource

Indicated Resource

Inferred Resource

Measured Resources

Modifying Factors

Mineral Reserve

Probable Reserve

Proved Reserve

Scoping Study

Pre-Feasibility Study

Feasibility Study

What is a Competent Person?

Requirements for a Competent Person

A minerals industry professional

Often a geologist or mining engineer

Active in the extractive industry

May work locally or internationally

A member of a Recognised Professional Organization (RPO)

Appropriate membership level

Subject to ethics and disciplinary codes

Minimum five years relevant experience

Style of mineralization

Type of deposit

Activity or area of technical input which that person is undertaking

Can the Competent Person face their peers and demonstrate competence in the commodity, type of deposit and reporting activity they are undertaking?

Note: These requirements are also subject to any additional restrictions or conditions which may be required by relevant stock exchanges or governmental/regulatory authorities.

Competent Person responsibilities

Preparing Competent Persons Reports

- Public reports, announcements, statements issued by owners of mineral assets
- Provide information on Exploration Results, Mineral Resources & Mineral Reserves

Exercising judgement in providing external information

- Ensuring that information available is properly considered and reasonable conclusions are drawn, supported by objective views

Upholding the principles of Transparency, Materiality, And Competence

- The core principles inherent in all CRIRSCO aligned standards

Enabling balanced and reasoned investment decisions

- Information is provided to enable investors and/or professional advisors to make informed decisions

- **Each RPO has its own bylaws and membership categories/criteria**
 - *In general, recognition by another NRO confirms that the membership criteria of the RPO are acceptable and in general equivalent to those of the Professional Organizations included in that NRO*
- **Requirements for Competent Persons may differ between NROs (and as defined in specific reporting codes)**
 - *Acceptability as a Competent Person still needs to take account of the particular requirements of that NRO and cannot rely on general agreements between NROs and RPOs, or direct unconditional reciprocity agreements between RPOs*
- **Professional Organizations interested on recognition by NROs in other jurisdictions follow application procedures that vary from NRO to NRO**
 - *Reciprocity agreements signed by NROs and RPOs may facilitate the process, but in general do not imply on automatic recognition of Competent Persons in the 'new' jurisdiction*

CRIRSCO comprises thirteen self regulating national bodies



JORC (Australasia) 1994
CBRR (Brazil) 2015
CIM (Canada) 1994
Comision Minera (Chile) 2003
CCRR (Colombia) 2018
PERC (Europe) 1994 (as IMM Code)
Komers-KCMI (Indonesia) 2017
KAZRC (Kazakhstan) 2016
MPIGM (Mongolia) 2014
NAEN (Russia) 2011
SAMCODES (South Africa) 1994
UMREK (Turkey) 2018
SME (United States of America) 1994



The National Reporting Organizations (NROs)

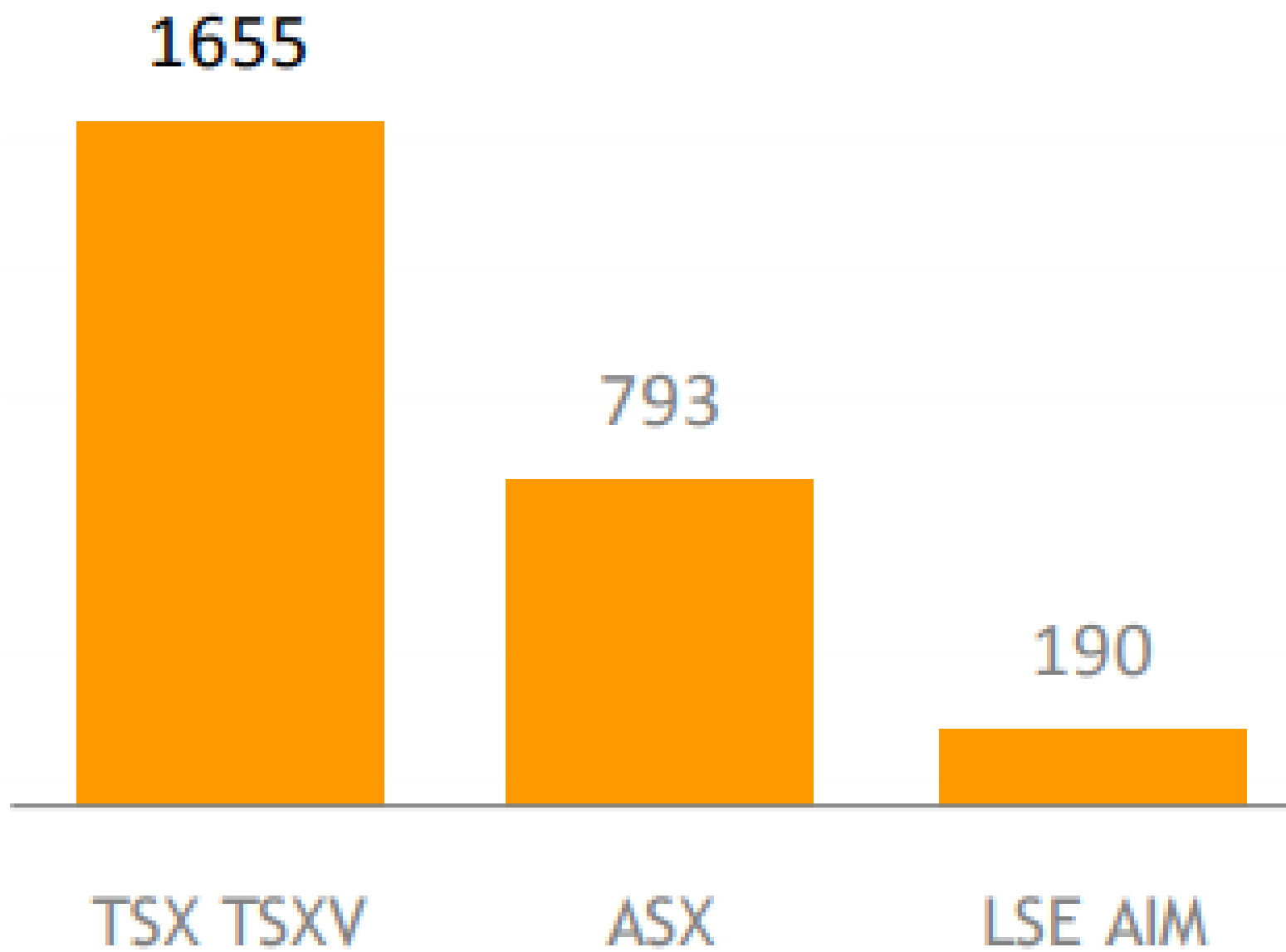
Global Leaders in Mining



- **Access to Capital** - 59% of the global mining financings were done on TSX and TSXV in 2017
- **Liquid Trading Market** - Almost 56 billion mining shares were traded in 2017 with a total value of \$206 billion
- **Analyst Coverage** - A global research community of 200+ analysts cover TSX and TSXV mining companies, with an average of 5 analysts covering TSX-listed companies
- **Tailored & Flexible Listing Criteria** - Listing requirements are designed to support companies at all stages, from grassroots explorers to some of the largest mining companies in the world
- **Growth Potential** - TSXV issuers can graduate to TSX as the company fulfills its growth strategy

Alternate Investment Market (AIM)	Any Nominated CRIRSCO Code
Australian Stock Exchange (ASX)	JORC Code
Johannesburg Securities Exchange (JSE)	SAMREC Code
Toronto Stock Exchange (TSX)	CIM standards/ NI 43-101
Hong Kong Stock Exchange	Any Nominated CRIRSCO Code





What is the benefit of the CRIRSCO Codes

- Promotes best practice
- Common language
- Common concepts
- Comparative for transactions/projects/ mines etc
- Non-technical professionals understand it
- Basis for valuation
- Guidance to Competent Persons
- Self Regulation
- Accountability
- Risk Mitigation



Eligibility for CRIRSCO membership

NRO Requirements



Reporting Standard

- Produce and maintain a reporting standard
- *Compatible with CRIRSCO template*
- *Recognised as the standard for Public Reporting*
OR
has wide support of local professional bodies



Consultation

- Consult other NROs before amending a reporting standard
- *Maintain alignment and consistency*



Self-regulation

- Include credible self-regulating professional bodies
- *Provide codes of ethics and discipline*
- *Govern the behaviour of Competent Persons*



Engagement

- Active support for CRIRSCO activities
- *Two Representatives on CRIRSCO*

*Compatibility with the CRIRSCO Template means a standard that is largely based on the Template with national variations as required by regulators, but with minimal variation on the Standard Definitions contained in the Template. For government reporting, "mapping" to existing classification systems is permitted, **BUT** 'compatibility' is not achieved by linking a national reporting system to the Template by mapping alone.*

Recognized Professional Organizations

RPO Requirements



Self-regulation

- Independent bodies representing the interests of mining professionals
- *May focus on a specific discipline (geology, mining engineering, metallurgy, etc), or include members across all disciplines*



Membership

- Include mining professionals at different grades/ levels of membership
- *Define membership requirements based on academic qualifications and professional experience*



Development

- Require Continuous Professional Development
- *On-going training, development and maintaining skills*
- *Must be recorded and verified*



Discipline

- Govern the professional behaviour of members
- *Enforceable code of ethics/conduct*
- *Disciplinary process for breaches of ethics/conduct, including suspension or expulsion of members*

NROs

Maintain their reporting code and define requirements for Competent Persons reporting under that code

Establish directly formal or informal relationships with any other NRO

Comprise one or more Professional Organizations

Each Professional Organization may have different membership requirements

RPOs

NROs may **recognize** membership classes of Professional Organizations included in other NROs = Recognised Professional Organisations

Process of recognition differs for each NRO

May require the approval of market, exchanges or other regulatory bodies.

In general, recognition of a RPO by another NRO implies equivalence of professional membership, and allows a member from the RPO to act as Competent Person in that jurisdiction

Admission process



Memorandum of Understanding

- An agreement between CRIRSCO and the candidate country to collaborate



CRIRSCO Working Group convened

- Team of at least four from CRIRSCO membership
- Includes at least one member from the Executive



Documents and structures prepared by candidate country

- Code drafted
- NRO Statutes prepared
- Code of ethics/ conduct provided
- Requirements for CP set out



Document reviews by Working Group and revisions by candidate country

- Consistency with Template
- Acceptability of 'local' additions or amendments
- Acceptability of NRO structure, POs and codes of ethics
- Acceptability of CP requirements



Exposure to full CRIRSCO Committee and request for approval

- Final drafts provided, with recommendations of Working Group
- Full Committee must reach consensus on acceptability or otherwise of documents and structures



Acceptance to membership when approved by CRIRSCO Committee

- Final approval of documents and structures
- Acceptance by exchange of letters, or if requested a membership ceremony

1 month

~ 6 months to several years

Min. 2 months

Thank you

Ken Lomborg,
Vice Chairman,
CRIRSCO

Panel discussion



Eric Lin
Partner, Head of Beijing office
Simmons & Simmons



Ken Lomborg
Vice Chairman
CRIRSCO



Chris Horton
Partner, Corporate & Commercial
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Dr Darko Hajdukovic
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UK Primary Markets
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Yangyang Zhu
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