FOSTER STOCKBROKING

EQUITY RESEARCH

Materials

2 November 2022

OM Holdings Ltd (OMH.ASX)

Low-cost alloy producer with options in new markets

Event:

- **We initiate research coverage on OM Holdings (OMH).**

Investment Highlights:

- **OMH is an integrated manganese (Mn) and silicon (Si) ferro alloy producer** with activities both downstream and upstream supporting production. Flagship asset is its Sarawak smelter (OMH 75%) in Sarawak, Malaysia.
- **Increasing alloy production capacity to 460-480ktpa.** The company has recently converted two ferrosilicon (FeSi) furnaces to produce higher and stable margin Mn alloys. Another two FeSi furnaces are currently being converted to produce Si metal. Company is guiding for 340-360kt alloys in FY22, and following conversion will have 460-480kt capacity.
- **Access to low cost, abundant, and reliable green energy.** Energy is a high cost component of alloy production. Sarawak smelter advantageously sources its power predominantly from hydroelectricity.
- **Supportive government policy.** Company has enjoyed a five-year tax holiday and has applied for a further five-year exemption on 70% of smelter earnings.
- **Sarawak at bottom of cost curve for alloys.** OMH lies in the bottom quartile of alloy cost curves due to the Sarawak smelter. Many peers in contrast are struggling with high energy costs (eg. coal) and power shortages.
- **Derisking of Mn supply with interest in Tier 1 Tshipi mine.** OMH has 13% effective interest in world class Tshipi Borwa mine, as well as stockpiles it is aiming to process from its Bootu Creek mine.
- **Si metal to open up new markets in aluminium, chemicals, and renewables.** Mn and ferro alloys are mostly consumed by steel markets. However Si metal is leveraged to overall higher growth markets including aluminium, health care, renewable energy. The highest growth market for Si is EV lithium ion batteries, albeit from a low base, for use as anode.
- **Bid to buy minority in Sarawak smelter value accretive.** OMH has made a US$120M bid to acquire 25% minority interest in Sarawak smelter. We estimate this is at 30% discount to our valuation, value accretive subject to final funding.

Earnings and Valuation:

- **We forecast attributable NPAT increasing in FY22e and FY23e to US$92M from US$102M on higher alloy prices and shipments**. We forecast a decline in FY24e to US$79M on normalisation of alloy prices offsetting higher production.
- **We value OMH at $1.60/share, based on 1.0x NPV_{10} of discounted cash flows.**

Recommendation:

- **We initiate on OMH with a Buy and 12-month PT of $1.60,** based on our risked valuation.
- **Catalysts for share price** include 1) gaining 100% control of the Sarawak smelter; 2) Commissioning of Si metal furnaces; 3) Higher production; 4) examination of downstream Sin and Mn opportunities for applications such as EVs and renewable energy; and 5) Dividend policy.

Disclosures

The analyst does not own OMH securities.
Foster Stockbroking and associated entities (excluding Cranport Pty Ltd) do not own OMH securities.
Cranport Pty Ltd does not own OMH securities.
Refer details end of report.

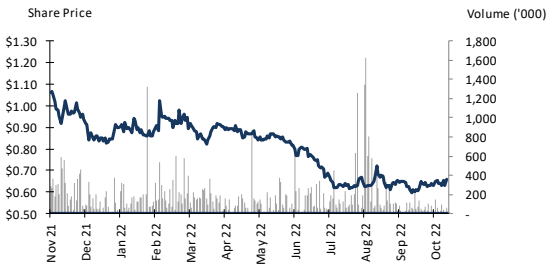
Recommendation	**Buy**
Previous	n/a
Risk	High
Price Target	**$1.60**
Previous	n/a
Share price (A$)	**$ 0.66**
ASX code	OMH
52 week low-high	$0.58-1.11
Valuation (A$/share)	**$ 1.60**
Methodology	NPV10
Capital structure	
Shares on Issue (M)	739
Market cap (A$M)	487
Net cash (debt) attributable (A$M)	-206
EV (A$M)	693
Ave daily volume ('000)	173

Earnings Y/e Dec US$M	**FY21a**	**FY22e**	**FY23e**	**FY24e**
Sales adj*	738	688	944	898
EBITDA adj.*	115	152	155	127
NPAT adj*	**61**	**92**	**102**	**79**
EPS adj. $*	**0.08**	**0.12**	**0.14**	**0.11**
PE x	**5.8x**	**3.7x**	**3.4x**	**4.5x**
EV/EBITDA x	**2.8x**	**2.1x**	**2.1x**	**2.6x**
DPS $	0.01	0.00	0.00	0.00
Yield %	3.1%	0.0%	0.0%	0.0%

** Adj =underlying attributable*

Board	
Low Ngee Tong	Execuitve Chair & CEO
Zainul Abidin Rasheed	Non-Executive Director
Julie Anne Wolseley	Non-Executive Director
Tang Peng Chin	Non-Executive Director
Dato Abdul Hamid Bin Sh Mohamed	Non-Executive Director
Tan Ming-li	Non-Executive Director

Share price graph



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OM Holdings (OMH)

Full Year Ended 31 December

Profit and Loss US$M	2021a	2022e	2023e	2024e
Attributable:				
Revenue	738	688	944	898
Operating costs adj.	623	537	788	771
EBITDA adj.	**115**	**152**	**155**	**127**
D&A	38	24	24	24
EBIT adj.	**77**	**128**	**131**	**103**
Net Interest exp / (income)	11	13	16	11
PBT adj.	**66**	**115**	**116**	**92**
Tax exp / (benefit) adj.	5	23	14	13
NPAT adj.	**61**	**92**	**102**	**79**
EPS diluted adj. ($)	**0.08**	**0.12**	**0.14**	**0.11**
DPS ($)	**0.01**	**0.00**	**0.00**	**0.00**

Cashflow US$M	2021a	2022e	2023e	2024e
EBITDA reported	138	172	174	138
Change in WC	-72	40	-25	10
Tax	1	-7	-11	-11
Other	4	1	0	0
Operating cashfow	**71**	**205**	**138**	**137**
PPE	-6	-23	-24	-24
Acquisitions	0	0	0	0
Capitalised expenses	-1	0	0	0
Investment	2	0	0	0
Dividend from associate	10	10	11	11
Interest income	0	1	1	1
Other	0	0	0	0
Investing cashflows	**5**	**-12**	**-13**	**-12**
Equity issue	0	0	0	0
Debt proceeds	17	2	0	0
Det repyament	-38	-48	-50	-50
Dividend paid	0	-11	0	0
Capital by minority	2	1	6	6
Interest expense	-16	-18	-5	-4
Other	1	1	0	0
Financing cahflow	**-35**	**-73**	**-49**	**-48**
Net cashflow	**41**	**120**	**76**	**77**

Balance Sheet US$M	2021a	2022e	2023e	2024e
Cash	82	197	273	350
Receivables	41	28	39	37
Inventories	256	141	193	183
PPE	444	437	432	425
Associate investment	87	84	87	89
Capitalsied exploration	4	4	4	5
Intangibles	13	11	11	11
Other	18	17	17	17
Assets	**944**	**919**	**1,055**	**1,117**
Payables	168	80	117	114
Provisions	7	3	4	4
Debt	297	250	200	150
Other	28	46	62	76
Liabilities	**500**	**378**	**384**	**345**
Capital	368	445	550	632
Equity attributable	**368**	**445**	**550**	**632**
Minorities	76	95	121	140
Equity	**444**	**541**	**672**	**772**

Half year splits	1H FY21a	2H FY21a	1H FY22a	2H FY23e
Alloy shipments, kt	175	184	183	186
Sales adj., US$M	332	405	413	275
EBITDA adj., uS$M	36	79	86	66
NPAT adj., US$M	**13**	**47**	**49**	**42**

Financial Metrics	2021a	2022e	2023e	2024e
Wtd ave shares (M)	739	739	739	739
Wtd ave share diluted (M)	739	739	739	739
EPS growth %	nm	51%	11%	-22%
Gearing (ND/ND+E)	33%	9%	-12%	-35%
Interest Cover (EBIT/net int)	6.9x	9.8x	8.3x	9.8x
Average ROE %	18%	23%	20%	13%
Average ROA %	11%	17%	17%	12%

Valuation multiples	2021a	2022e	2023e	2024e
P/E x	**5.8**	**3.7**	**3.4**	**4.5**
EV/EBITDA x	**2.8**	**2.1**	**2.1**	**2.6**
Yield %	**3.1%**	**0%**	**0%**	**0%**

Company Valuation		
DCF 10% dr nominal		
Segment	**A$M**	**A$/share**
Sarawak smelter	994	$1.35
Qinzhou smelter	6	$0.01
Bootu Creek & exploration	10	$0.01
Bootu Creek rehabilitation	-13	-$0.02
Tshipi	228	$0.31
Marketing	291	$0.39
Corporate	-86	-$0.12
Working capital	-44	-$0.06
Net Cash attributable	-205	-$0.28
Total	**1,180**	**$1.60**

Capital structure	M
Ordinary shares	739
Fully diluted	**739**

Assumptions	2021a	2022e	2023e	2024e
FeSi Japan CIF, US$/t	2,314	1,906	1,514	1,367
SiMn Japan, US$/t	1,606	1,316	1,133	1,073
Si metal 553 US$/t	-	3,000	2,700	2,400
Mn ore 44% China CIF US$/dmtu	5.21	6.18	5.57	5.03
A$:US$	0.72	0.69	0.71	0.73
Shipments kt (100%):				
FeSi	114	140	135	135
Mn alloys	146	353	400	400
Si metal	0	0	30	30
Total	**359**	**369**	**518**	**565**
Ave relaised price US$/t alloy	1,337	1,766	1,596	1,488
Cash costs US$/t alloy	974	1,337	1,288	1,259

JORC Resources	Ore Mt	Mn grade %
100%:		
Bootu Creek	6.9	13.2%
Bryah Basin	1.8	21.0%
Tshipi	431.7	33.2%
Total	**440.4**	**32.8%**
Atrributable		
Bootu Creek (100%)	6.9	13.2%
Bryah Basin (51%)	0.9	21.0%
Tshipi (13%)	56.1	33.2%
Total	**64.0**	**30.9%**

Substantial shareholders	%
Huang Gang	14.0%
Amplewood Resources Ltd	13.6%
Low Ngee Tong	9.3%
Heng Siow Kee	9.0%

Source: Company; Foster Stockbroking estimates.

MANAGNESE AND FERRO ALLOY PRODUCER

- OM Holdings Ltd (OMH) is a vertically integrated manganese (Mn), and silicon (Si), and ferro alloy producer, with activities both downstream and upstream supporting production, including raw material supply and marketing. The company is incorporated in Bermuda and listed on the ASX in 1998. It also undertook a secondary listing on Bursa Malaysia Securities Berhad (Bursa) in 2021. OMH is headquartered in Singapore, with its activities located mostly in Malaysia, Singapore, and Australia. Staff number approximately 2,100, with about 1,800 in Malaysia involved in alloy production. Production of alloys is undertaken by two smelters – the flagship OM Sarawak smelter in Malaysia, and OM Qinzhou smelter in China.

OM SARAWAK MALAYSIA (OMH 75%)

Location and ownership

- OMH's 75% owned OM Sarawak (Sarawak) smelter is located in Samalaju Industrial Park, in Sarawak, East Malaysia, on the island of Borneo. OMH's 75% ownership in OM Sarawak is via a JV with local company Samaluju Industries Sdn Bhd, a subsidiary of Cahya Mata Sarawak Berhad (CMSB), who owns 25%. CMSB is listed on the Bursa and is a leading Malaysian industrial conglomerate with interests in cement, construction, materials, roads, property, trading, finance, education, and steel manufacturing, including in Samalaju.

Figure 1: OM Sarawak location

Source: Company.

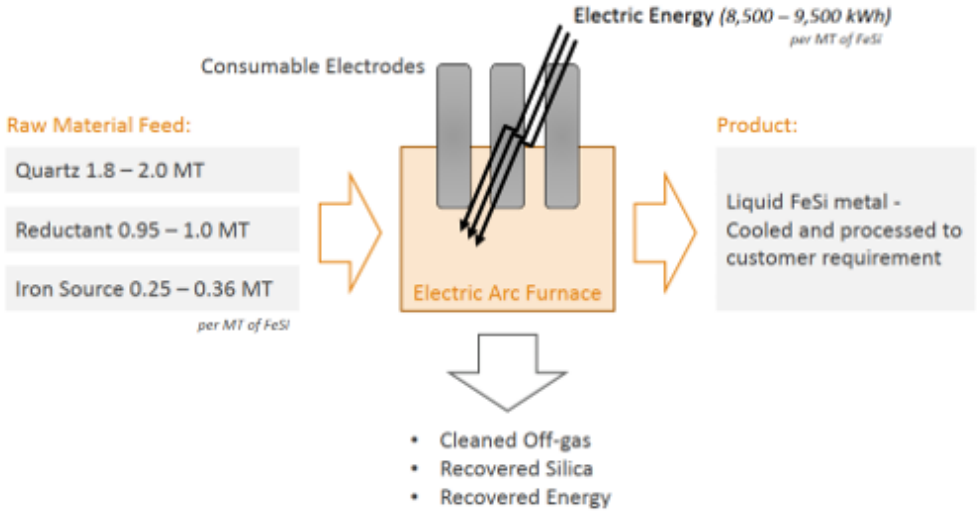
SARAWAK SMELTER OVERVIEW

Ferrosilicon, manganese alloys, and metallic silicon

- The Sarawak smelter produces three alloy product groups: ferromanganese (FeMn), silicomanganese (SiMn), and ferrosilicon (FeSi). The smelter is also in the process of introducing a new product – metallic silicon (Si). Within the alloy groups there are varying alloy products which vary according to metal content in the alloy. For example, SiMn includes low carbon and regular SiMn, while FeMn comprises mainly high carbon FeMn.

Smelting process

Figure 2: Sarawak alloy production – FeSi example*



*Source: Company. *About 2-2.2Mt of Mn ore additionally required as raw material feed per Mt of Mn alloys.*

- Production of alloys involves blending and feeding raw materials into an electric arc furnace (EAF) at high temperatures to melt and alloy metals. The amount of each raw material varies depending on the alloy being made. FeSi requires quartz for Si, iron (Fe) sources such as billet scrap, reductants (coke, semi-coke, or coal), and flux (such as lime or limestone) to prevent oxidation. Mn alloys (FeMn or SiMn) require only Mn ore, about 2-2.2t per t, as well as Mn slag, which contain Fe and silica. For metallic Si about 2.5t quartz is needed per t.

- Materials are transported and fed by a conveyor belt into the EAF, where temperatures vary depending on metal oxide being reduced and alloy produced. Generally FeSi requires 1,700°C, while FeMn and SiMn need 1,300-1,500 °C. Molten alloy forms at the bottom of the furnace. The furnace is then punctured to release the alloy (tapped) into a ladle and casted on molds. The casted alloys are crushed to customer specifications and bagged, ready for shipment.

- Water is used for cooling furnace equipment and transformers via a closed loop water circulation system, with chemical additives for minimising pipe scaling and corrosion. Primary wastes generated are SiMn slag (SiMn smelting) and fine silica fume powder (FeSi smelting) which is recovered from the de-duster systems. 96% of the total waste is repurposed for use in construction.

- FeSi alloys contain about 70-75% Si, albeit it can be as low as 45% in certain developing markets, the balance being mostly Fe. Mn is the main alloying element in Mn alloys, averaging about 70%. For SiMn it ranges 60-67% Mn while for HCFeMn it is 65-78% Mn.

Sarawak capacity increasing to 460-480ktpa

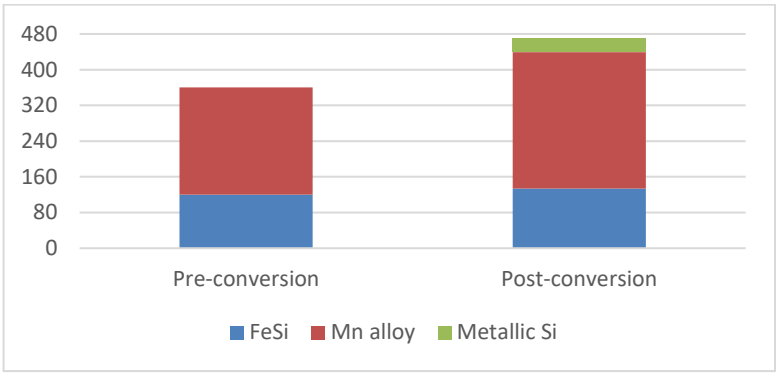
- Sarawak began construction in 2013, with commissioning of the first furnace and initial FeSi production in 2014, followed by Mn alloys in 2016. Metallic Si is scheduled to be produced later this year. The smelter contains eight workshops, each comprising two furnaces for a total of 16. Each furnace is rated at 25.5MVA. Initially ten furnaces were designed for FeSi production and six for Mn alloys, with average capacity of 240ktpa Mn alloy and 230ktpa FeSi, for total capacity of 470ktpa.

- However at the end of 2020, OM Sarawak decided to convert two FeSi furnaces - which had been idled due to Covid and subdued market demand - into producing Mn alloys. Despite the

impact from Covid on worker availability and smelter lockdowns, which delayed and prolonged furnace conversions, they were eventually commissioned in June and July 2022. At the end of 2021, OM Sarawak also decided to convert another two idled FeSi furnaces into metallic Si furnaces. Conversion is underway, the furnaces dismantled and civil works and equipment installation progressing. The company expects hot commissioning and testing to occur in December 2022.

- Following the conversion of the four FeSi furnaces by end CY22, OM Sarawak will comprise six FeSi, eight Mn alloy, and two metallic Si furnaces. Average alloy and metal capacity will be 130-140ktpa FeSi, 300-310ktpa Mn alloy, and 30ktpa metallic Si, for a total of 460-480ktpa. Capacity can vary depending on the type and grade of FeSi and Mn alloy produced. For example, SiMn has a lower daily production compared to HCFeMn, since it requires higher power consumption. Capacity is also inclusive of downtime for maintenance, being on average 15 days annually per furnace.

Figure 3: Sarawak smelter capacity pre- and post-furnace conversions, ktpa



Source: Company; Foster Stockbroking estimates.

Growth plans to increase capacity to 610-640kt

- Post the furnace conversions, OM Sarawak has ambitions to add another two Mn alloy furnaces, each rated at higher apparent power of 33MVA for better efficiency and higher production capacity of 150-160ktpa, which would increase Sarawak capacity to 610-640ktpa. The expansion is subject to the outcome of feasibility studies, funding, and power. Capex was previously estimated at US$95M (initially A$120M), though likely to be higher given inflation pressures.

Figure 4: Sarawak smelter capacity

	Pre-COVID	2021	2022 Conversion + Maintenance	Future
Fesi 65-70 mt / day	10 of 10 230ktpa	~6 of 10 120ktpa	4 to 6 furnaces 110-130ktpa	6 of 6 130-140ktpa
Mn Alloys 100-110 mt / day	6 of 6 240ktpa	~6 of 6 240ktpa	4 to 6 furnaces 200-220ktpa	+2 → 8 of 8 300-320ktpa
MetSi 30-35 mt / day	-	-	-	+2 → 2 of 2 30ktpa
Mn Alloys New 33 MVA 200-220 mt / day	-	-	-	2 of 2 150-160ktpa
Total Plant Output (Est.)	470ktpa	360ktpa	340ktpa – 360ktpa	610-640ktpa

Source: Company.

Conversion provides flexibility and market diversification

- OMH's rationale for the conversions were predicated on long-term outlooks for each alloy and profitability, believing Mn alloys and metallic Si can generate higher return per furnace vs FeSi. The furnaces' flexibility also means in future other conversions may be undertaken should there be market changes in metal or alloy demand. Conversion usually involves dismantling, civil works, equipment installation, modifications, furnace lining, and performance testing prior to hot commissioning.

FY22 production guidance 340-360kt

- The company has guided alloy production of 340-360ktp for FY22, which is approximately flat over FY21 production of 359kt. This is due to downtime from conversions in FY22, lingering Covid impact especially earlier in the year, and only six months contribution of the two newly converted manganese alloy furnaces. Meanwhile the two metallic Si furnaces are due to come on-line only by end FY22.

Production normalizing post Covid

- Many of Sarawak's skilled workers come from China. However during the Covid pandemic in 2020-21, Malay and Chinese authorities introduced restrictions on passports and visas, foreign worker quotas, and quarantine, all negatively impacting worker and contractor availability. These impeded both operation and conversion of furnaces, and led to a plant-wide shut-down in May 2021. Since resuming production in July 2021, the Malaysian Government began approving entry applications by foreign workers on a case-by-case basis in late 2021. OMH expects normalisation of operations by end FY22.

INFRASTRUCTURE – CHEAP & ABUNDANT POWER A COMPETITIVE ADVANTAGE

- The Sarawak smelter is advantaged by well-developed infrastructure, including access to plentiful and cheap renewable power, pro-business government policies, and proximity to both customers and raw material supply.

Government support

- The Sarawak smelter is located in Samalaju Industrial Park, Sarawak, purposely developed for energy intensive industries by the Sarawak Government's Bintulu Development Authority of Sarawak. The park is located in the Sarawak Corridor Of Renewable Energy (SCORE), along with other businesses such as an aluminium smelter, polycrystalline silicon producer, phosphate producer (CMSB), and other alloy producers.

- Sarawak also enjoyed a five-plus-five year holiday from corporate tax of 25% during 2012-2021. A further five-year tax holiday on 70% of earnings has been applied for by OM Sarawak, which we assume will be granted beginning FY23. Malaysia has zero duty and export taxes on Mn ore and alloys.

Abundant and cheap green hydropower – key for competitiveness

- As the SCORE acronym implies, Sarawak is supported by renewable energy, in the form of hydroelectric power. Power is abundant, underpinned by 3.3GW of installed hydropower capacity from the Bakun (2.400GW) and Murum (0.944GW) dams, located 95km and 120km from the smelter. The Sarawak province in Borneo is blessed with high rainfall and an abundance of rivers. Further hydropower capacity is being added with the Baleh dam project under construction (1.285GW), scheduled for 2027 completion.

- Power is crucial given that alloys require material energy input for heating furnaces, and represents about 40% of FeSi and 25% of SiMn production costs (Figure 5).

Figure 5: OM Sarawak costs breakdown

Source: Company; AlloyConsult

- Sarawak smelter has a 20-year Power Purchase Agreement (PPA) expiring 2033, with Sarawak Energy Berhad for 350MW power, which covers the smelter's existing capacity plus some of its expansion plans. We estimate if Sarawak operates at full capacity (460-480ktpa) post conversion of furnaces, it would utilise 305-345MW, or 88-98% of its allocated power (Figure 6).

Figure 6: Estimated Sarawak smelter power consumption

Alloy	Capacity kt	kWh/t	MW pa
FeSi	130-140	8,500-9,100	126-145
Mn	300-310	4,000-4,500	137-159
Si met	30	12,000	41
Total			**304-345**

Source: Company; Foster Stockbroking estimates.

- Growth plans to lift smelter capacity to 610-640ktpa with two additional manganese alloy furnaces (150-160ktpa) would necessitate a further 68-82MW, pushing total requirement to 372-427MW. The potential for this will be likely comfortably accommodated by the 1,258MW Baleigh dam coming onstream in a few years. The smelter could also utilise power from residual heat recovery from the furnace waste heat and gases, which can represent an additional 30-40MW

- The PPA is take-or-pay and has a fixed price escalation rate subject to inflation at an agreed rate. The smelter has 275KV power substation on-site, being the last mile connection to the Sarawak hydroelectricity grid.

ESG friendly and minimal community impact

- Besides the green credentials of its energy consumption being renewable hydropower, the smelter's location in the province of Sarawak facilitates minimal community impact. The province has low population density, comprising only 2.4M people but 37.5% of Malaysia's land area. OMH is also collaborating with the International Manganese Institute to conduct a Life Cycle assessment (LCA) on the smelter to benchmark its environmental footprint vs its peers, which would benefit marketing its alloys to existing and potential new customers.

Ready access to skilled domestic and foreign workers

- OM Sarawak has approximately 1,800 employees, with an approximate mix of 68% local and 32% China workers, the latter because of China's more established smelting industry. However, the portion of domestic workers has been growing over the past few years due to

both internal and external training, and greater work experience, including at OM Sarawak. A recent initiative is an MoU with Universiti Malaysia Sarawak for the award of Certificate in Manufacturing Technology (smelting) program, to be devised by Faculty of Engineering, part of which will be conducted on-site at OM Sarawak.

- Workers and contractors from peninsular Malaysia and China reach Sarawak via Bintulu Airport, which has direct flights to and from Malaysia's capital Kuala Lumpur. The airport is only 5km from the coastal town of Bintulu (population 115k), which in turn is about 75km (1 hr) from OM Sarawak by sealed primary and secondary highway and road.

Nearby port access

- Samalaju Port is purpose built for Samaluju Industrial Park, and located only 7km from the Sarawak smelter. The port supports vessels up to 58,000t Supramax, and is wholly owned by Bintulu Port Holdings Berhad. The port allows OM Sarawak to export alloys to nearby Asian customers, as well as other regions such as the Americas and Europe. Importantly, it also allows importing of critical smelter feedstock such as manganese ore, reductants, iron units, and quartz from nearby sources such as India, Australia, China, and Indonesia.

RAW MATERIALS

Nearby sources an advantage

- Sarawak smelter mostly imports quartz from China, as well as from India. There are available deposits in Australia, South-East Asia, Egypt, and Spain. Mn ores are sourced mostly from proximate locations mainly from RSA and Australia, but also Gabon and Brazil, providing a mix of ore type, grade, and size. These include OMH's wholly owned mine Bootu Creek in Australia, and the Tshipi mine in RSA in which OMH has effective 13% equity interest. However majority of ore is sourced from third parties. Coal, coke, and semi-coke are mainly procured from China, but also from Europe and South America.

Sinter plant provides lumpy ore feed

- The Sarawak smelter has an on-site sinter plant which was commissioned in 2021. It provides flexibility on Mn ore feed as OMH can import both lumps and fines. Sintering involves heating ore with a reductant, which agglomerates the fines into lumps. The sintered ore is then crushed and fed to the furnace. The sinter plant is currently ramping up to full commercial production of 250ktpa.

OM QINZHOU CHINA (OMH 100%)

Small-scale, secondary focus

- OM Qinzhou was OMH's first smelter and is located in south-west China's Guangxi province, beginning operations in 2004. The smelter is much smaller than OM Sarawak, possessing only two furnaces (16.5 MVA and 25.5 MVA) for total production capacity of 80-95ktpa Mn alloy. No FeSi is produced. The smelter also has a sinter plant, commissioned in 2010, with 300ktpa capacity.

- OM Qinzhou has some advantages regarding infrastructure. It is only 1km from Qinzhou port and also closely located to a Mn mine for feedstock. Power is typically sourced from hydro from April to October, but coal at other times. About 40% of Guangxi province's power comes from hydro.

China power costs crimping profits

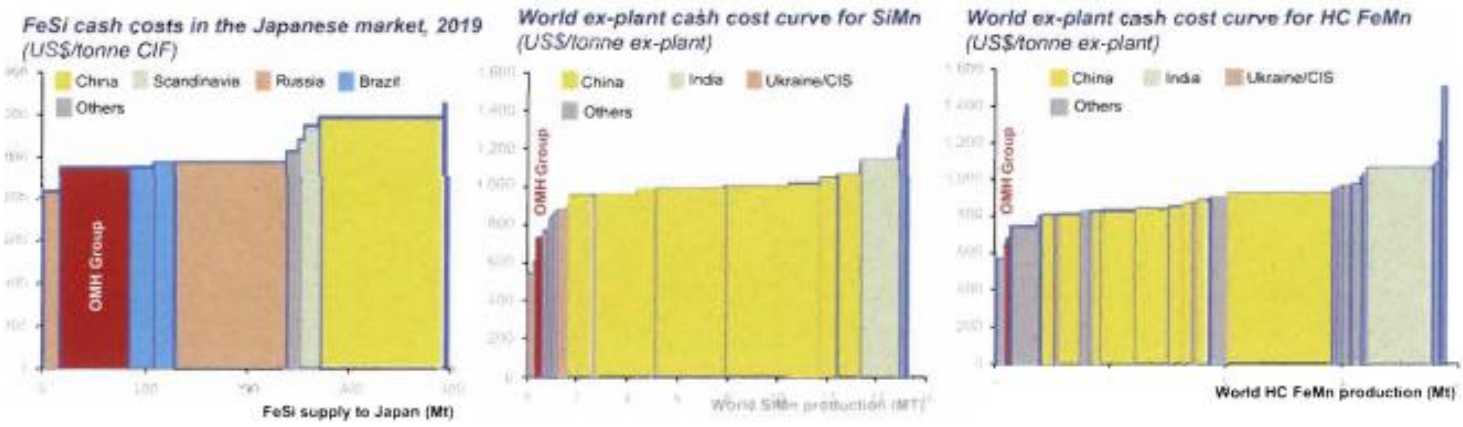
- However the smelter's small scale, errant rainfall, and increasing power costs across China have negatively impacted profitability, including encountering power disruptions due to shortage of rain supplying hydroplants, and tight thermal coal supply. Production fell in 2021 due to power rationing and production curbs imposed by government authorities, eventually ceasing in December 2021 due to persistent elevated power tariffs.
- We do not expect Qinzhou smelter to be a growth asset for OMH, or material contributor to earnings. Instead the company is focused on optimising growth from Sarawak given recent conversion plans, and greater future power availability and reliability in Sarawak.

COSTS

OM Sarawak smelter lowest cost quartile producer

- According to industry specialists *AlloyConsult,* OMH is a lowest cost quartile producer of FeSi, SiMn, and HCFeMn alloys. The main driver of this attractive cost position is mainly due to low cost hydroelectricity, nearby and integrated sources of raw materials, economy of scale, and inexpensive skilled labour (Figure 7).

Figure 7: Alloys Costs Curves Showing OMH Position



Source: AlloyConsult; Company.

- *AlloyConsult* noted barriers to entry are higher for Mn alloys vs FeSi due to greater scarcity and concentration of Mn ore production vs silica, with most of the lowest cost and successful Mn alloy producers backward integrated into supply. OMH's interests in Bootu Creek and Tshipi provide supply integration.
- The Sarawak smelter's competitively priced, reliable, and environmentally-friendly hydropower advantages it over coal-powered smelters globally, given increase in coal prices and greater focus on and rewarding of carbon neutrality. This is especially so for China smelters facing increased reliance on thermal coal imports, which in turn have risen sharply in prices. China producers are also disadvantaged by emissions caps, regulatory fines, and increased export taxes (e.g. 25% on FeSi up from 20% in April 2021).

MARKET SHARE

Leading Asian supplier

- OMH smelters' major customers are mostly located in Japan, South Korea, Taiwan, and South-East Asia, where it enjoys logistical freight advantages vs Europe and the Americas, although it has customers in these regions as well. According *to AlloyConsult* OMH's global alloy production share (100% basis) is 7.6% for FeSi and 3.8% for Mn alloy ex-China. In Asia, OM Sarawak has 12.5% FeSi and 16.9% SiMn share. The company is a top ten producer of both ferro and Mn alloys ex-China, and one of the largest in Asia ex-China.

Figure 8: OMH Group Alloy (100%) Market Shares

	World	World ex-China	Asia
FeSi	2.6%	7.6%	12.5%
Mn alloy	1.3%	3.8%	16.9%

Source: AlloyConsult; Company. Based on 2020 production.

MANGANESE MINING AND EXPLORATION

Providing level of supply security

- OMH's Mining and Exploration business involves interests in Mn producing mines and exploration projects. The purpose is to provide a degree of security of ore supply to its smelters. Unlike the supply of other smelter raw materials such as Fe, quartz, coal, and coke, Mn ore production is relatively highly concentrated : the top 14 producing companies hold 74% share, while the top 5 hold 53%.
- OMH's major mine and exploration assets comprise the mines Bootu Creek (100%) and Tshipi Borwa (13%), and exploration projects Bryah Basin JV (51%) and 701 Mile Manganese (earning up to 80%). Most of OMH's mining and exploration activity is centred in Australia due to its geology and relative proximity to its smelters in Malaysia and China, which minimise freight costs.

BOOTU CREEK (OMH 100%)

End of mine life puts focus on processing tailings and reject fines

- Bootu Creek is a Mn open-pit mine and plant in the Northern Territory (NT), Australia, located 110km north of Tennant Creek. Mining began in 2005 with first production in 2006, utilising drill and blast, excavation and haulage. Production capacity was 1.25Mtpa of 35-37% Mn ore which made OMH one of top 15 Mn producing companies at one stage. Product is trucked 60km from mine to a rail siding, and transported 800km on the Alice Springs-to-Darwin rail line to the Port of Darwin where it is exported. About 20% to 30% of Bootu Creek's sales over 2017-2020 was to OMH's smelters.
- JORC Resources are 6.9Mt @ 13.2% (all Indicated) of mostly siliceous Mn ore. Of this 1.66Mt @ 22.8% Mn is in shallow deposits, with the balance of 5.3Mt @ 10.2% Mn in rejects, tailings, and stocks.

Figure 9: Bootu Creek JORC Resources – Indicated*

Deposit	Ore Mt	Grade %
CFN	0.35	23.1%
Masai 5	0.13	26.5%
Tourag	0.67	22.7%
Zulu South	0.23	20.9%
Renner west	0.28	22.3%
In-Situ Resource	**1.66**	**22.8%**
ROM stocks	0.16	13.5%
SPP stocks	0.04	14.5%
UFP rejects	2.07	12.1%
UFP tailings	2.99	8.6%
Bootu Creek – Total	**6.92**	**13.2%**

**Category of Resource is all Indicated. No Measured or Inferred amounts.*

- Run-of-mine ore processing consists of crush and screen, followed by HMS plant which has 0.8Mtpa capacity primary processing plant (PPP). There is an abutting secondary process plant (SPP) with capacity of 0.2Mtpa which treats the PPP's rejects and fines. Finally, there is a stand-alone Ultra-Fines Plant (UFP), with 0.25Mtpa capacity, for processing existing tailings stockpiles and plant reject material.

- Mining ceased in December 2021 and processing of ROM feedstock stopped in January 2022. The mine and plant are now on care and maintenance. The focus is now on processing tailings and HMS rejects by the UFP to produce fines product averaging 32%-38% Mn. The fines would be used as feed for Sarawak smelter's sinter plant to producing lump feed for its furnaces. Processing life of UFP should be seven years based on stockpiles.

Restart dependent on market conditions and new equipment

- The UFP was commissioned in 2020 but has had performance issues including poor classifier and screening efficiencies which impacted downstream separation, and pumping of tailings, causing product to be below grade and yield targets. OMH trialled different screen media which improved efficiencies, completing a review in 1Q22. New equipment including screens have been ordered, with about a 12-month lead time. However the company will only restart the UFP if market conditions are also favourable.

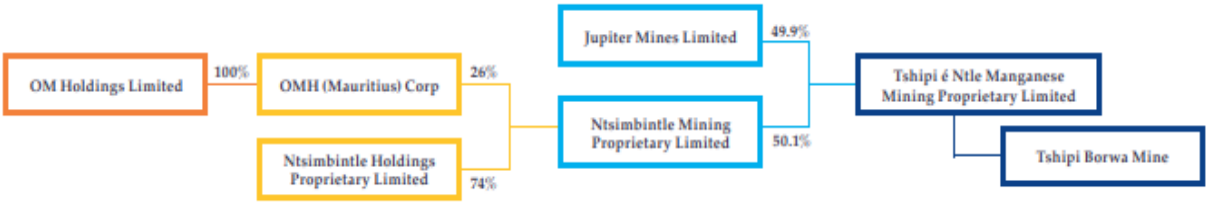
- In the meantime OMH is undertaking rehabilitation of the mined Bootu Creek pits, with earthworks for rehabilitation commenced in 2Q22 and expected to complete in 3Q22. Seeding of rehabilitated waste rock dumps to commence during next wet season in November 2022 - March 2023. OMH has provided for US$8.1M in environmental bonds with the NT government to secure rehabilitation commitments.

TSHIPI BORWA (OMH 13%)

6th largest Mn producer globally

- OMH owns 13% effective interest in the Tshipi Borwa (Tshipi) Mn mine in RSA. It bought its interest in 2009, becoming a 26% shareholder in Ntsimbintle Mining Pty Ltd (Ntsimbintle). Ntsimbintle in turn owns 50.1% of the Tshipi e Ntle Manganese Mining JV (Tshipi e Ntle) which owns and operates the mine. The other 49.9% is held by Jupiter Mines Ltd (JMS).

Figure 10: Ownership of Tshipi Borwa Mine



Source: Company.

- Tshipi is located in the Kalahari Manganese Field (KMF) in the Northern Cape province, RSA, producing 3.0-3.6Mtpa (100%), ranking it no.6 globally (*AlloyConsult*). Product is a mix of lump and fines product (approximately 85%:15%) at 36-37% Mn, including lower grade 32-33% Mn product when market conditions are supportive. Mining, production, and sales commenced in 2012 and operation is truck and shovel open-pit, drill and blast, with process plant comprising crush and wet screening. Product is loaded onto the JV's own load-out station and mostly railed to ports in RSA and Namibia, with trucking also employed. The mine lies on the south western limb of the KMF where resources are shallow. The ore body commences at 70m depth containing a 35-40m thick mineralised zone, which dips gently at 5°.

Long life span strategic and derisks supply

- OMH sells most of its equity interest (13%) of Tshipi product to third party smelters and traders, with the balance feeding its own smelters. Global Mn ore production is about 55Mtpa, with Tshipi (100%) accounting for 6% market share. We view the asset as strategic for OMH, both in its longevity of mine life, and especially since Bootu Creek has ceased mining.

EXPLORATION

Bryah Basin Manganese JV (51% OMH, earn-in up to 60%)

- OMH has 51% interest in the Bryah Basin Manganese JV (BBMJV) with partner Bryah Resources (BYH). The BBMJV tenements total 660km^2 and are located in the Bryah Basin 150km north of Meekatharra in central Western Australia. The next stage allows for OMH to earn 60% by funding A$1.8M of exploration. Upon reaching 60%, BYH may elect not to contribute, diluting from 40% to 30% for next A$2.5M expenditure.

Potential for development

- The BBMJV declared a maiden JORC Resource of 1.84Mt @ 21% Mn in March 2022, including 0.65Mt @ 20% Mn on a Mining Lease, which would enable quick re-permitting of any mining. Indicated component is 1.08Mt @ 22% Mn and Inferred 0.75Mt @ 20% Mn. The Resource was estimated from the Area 74, Brumby Creek, Black Hill, and Horseshoe deposits, the last containing the historic Horseshoe South Manganese Mine comprising shallow pits. Current Resources have maximum depth of 45m, including mineralisation at surface in some areas, and amenable to shallow pits. Strikes vary from 200m to 500m and widths between 20m and 80m.

- Most recent mining at Horseshoe was undertaken by Mineral Resources (MIN) in 2008-2011, producing 400kt using DMS. OMH's intention is to lodge Mining Licence applications over all areas, while still undertaking further drilling and surveys to expand Resources. Preliminary metallurgical test work suggests manganese content can be upgraded, with DMS beneficiation likely required for a saleable product grade (e.g. 35-40% Mn). With the end of Bootu Creek's mine life, there is an option for its plant to be relocated and utilised in the future mine development of BBMJV.

Figure 11: BBMJV JORC Resource

Deposit/Category	Ore Mt	Mn grade %
Area 74	0.24	**23.6%**
Brumby Creek	0.53	21.2%
Horseshoe	0.30	20.5%
Black Hill	0.02	29.7%
Indicated	**1.08**	**21.7%**
Brumby Creek	0.40	20.3%
Horseshoe	0.35	19.5%
Inferred	**0.75**	**19.9%**
Total	**1.84**	**21.0%**

Source: Company.

701 Mile Manganese (OMH earning up to 80%)

- OMH has a farm-in exploration JV with Great Sandy Pty Ltd for the 701 Mile project, located 90km south east of Newman, Western Australia, where manganese outcrop has been observed. OMH initially will earn 51% on completion of stage 1 exploration funding and up to 80%. An initial 1,393m RC drill program was completed in June 2022 with assays pending.

Weelaranna Project (OMH 100%)

- Weelaranna is located to the west of 701 Mile manganese. Geological mapping and aerial surveys have been undertaken.

MARKETING

Trading of raw materials, alloys, and ores

- OMH's Marketing Division is headquartered in Singapore, with offices also in Qinzhou and Shanghai, China, and in Japan. The business essentially procures raw materials and sells alloys on behalf of its smelters. It also acts to manage inventory, with any procured raw material – either from third party suppliers or its own mines – that is surplus to smelter requirements and sold to external customers. Sales are undertaken on both spot and long-term contracts. The division generates income from marketing fees, which have historically averaged approximately 3%.

Major steel customers

- Major markets for Sarawak alloys are Japan, South Korea, SE Asia, while sales have also been made to Europe and Latin America, and there is potential for Middle East and North America. Major steelmaker contract customers include China Steel Corporation (Taiwan), Erdemir (Turkey), Formosa Ha Tinh Steel (Vietnam), Hyundai Steel (South Korea), JFE Steel Corporation (Japan), JSW (India), and POSCO (South Korea).

E25 offtake mitigates Bootu Creek end of life

- Mn ore suppliers include OMH's own Bootu Creek and Tshipi share, as well as third parties such as South32's (S32) Samancor. Surplus Bootu Creek ore, approximately 70% of production, has been sold to external customers in the past when the mine was in production.

- Recently OMH entered into a binding offtake agreement with Element 25 (E25) for 100% of 28-35% Mn product from the 365ktpa Stage 1 of E25's Butcherbird mine in Western Australia. The take-or-pay offtake is for a five-year term. First purchase commenced in May 2021. We expect Butcherbird allows OMH to replace the gap in nearby Australian supply from the end of mining at Bootu Creek.

CORPORATE

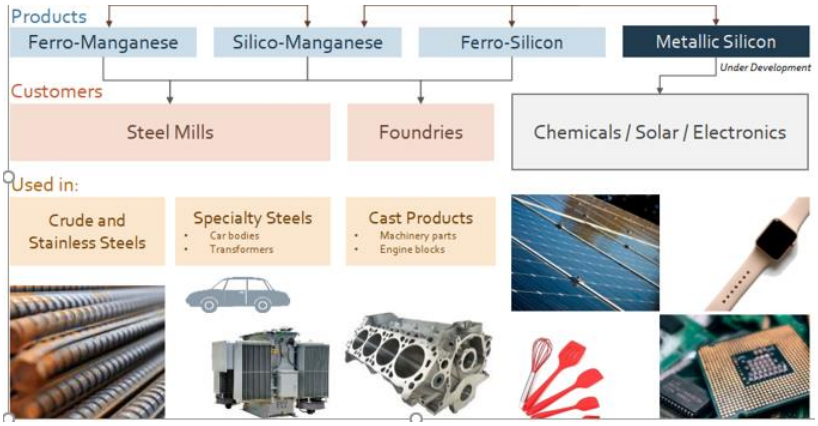
Cash of US$73M, debt of US$281M

- OMH consolidated balance sheet cash was US$73M end 1HFY22 and consolidated debt US$280.8M, of which US$261.7M is bank project debt secured against Sarawak. The balance of US$19.1M debt is from unsecured shareholder and third-party loans, with the exception of secured US$8.5M maturing in January 2023. Bank debt's effective interest rate ranges from 1.9% to 5.1% and other loans from 1.2% to 4.5%.
- While the company has paid dividends, it has no dividend policy. However we understand a policy is under current consideration.

USES OF ALLOYS

- The largest market for FeSi and Mn alloys is the steel sector, while Si metal has broader uses across different sectors.

Figure 12: Alloy End Uses

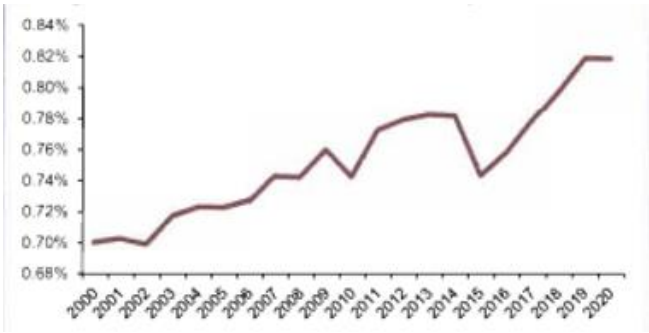


Source: Company.

Mn alloys for strengthening steel

- Steel accounts for 94% of global Mn consumption, including 99% of SiMn and HCFeMn alloy demand (*AlloyConsult*). Mn is used to desulfurise steel, since sulfur causes all steel to crack during production. Mn is currently the only economic additive to remove sulfur and its alloys cannot be recycled. Mn alloys also confer other beneficial properties to steel such as hardness, deoxidation, and formability. A significant portion of steel uses Mn alloys for these properties, especially steels used in construction, infrastructure, energy, and automobiles.
- Majority of steels use Mn content in the range of 0.2-2.5%, with average of 0.8%, varying depending on geography, specifications, and steel grades. For example steel for consumer applications typically have lower Mn than those for industrial. Since 2000 the trend has been increasing Mn content due to industrialisation of developing countries. This trend however is likely to plateau, given that China which previously grew aggressively over the past 20 years is maturing. Global trends driving Mn consumption include population, urbanisation, and industrialisation. The proliferation of growth of EVs represents upside growth to Mn demand.

Figure 13: Average Mn Content of Global Steel Production



Source: Company; AlloyConsult; World Steel Association

FeSi and SiMn for corrosion resistance and conductivity

- 69% of FeSi alloy consumption is by steel markets, with the balance of applications in cast iron and magnesium production. Si deoxidises steel, enhancing its corrosion resistance, as well as improving electrical conductivity, tensile strength and hardness, and maintaining temperature of molten steel. It is used especially for specialty electrical steels including transformers and construction steel such as long products. Si content can vary from 0-8%, with upper range used in automotive, electrical steel, and long products in construction, infrastructure, and energy.
- About 57% of Si used in steel come from FeSi alloys, with the balance mostly from SiMn. In deciding between SiMn or FeSi, steelmakers take into account pricing (SiMn usually cheaper) and steel specification being produced. The intensity of FeSi use depends on particular steel, but traditionally averages 5kg/t of steel, and usually varies from 3 to 6kg. There is no known substitute for Si and it cannot be recycled.

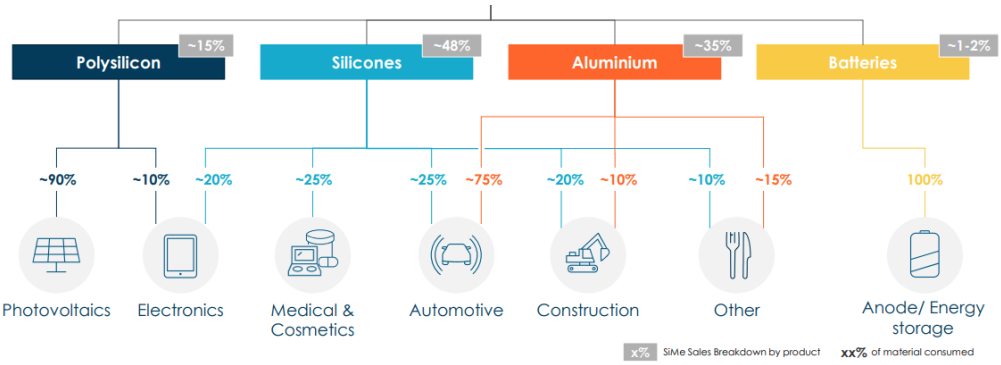
Si metal – more diversified markets

- Si metal has a more diversified market than that for FeSi and Mn alloys, including segments such as aluminium where it reduces cracking in aluminium alloys and improves strength, corrosion and water resistance, and hardness. Examples are in consumer goods, packaging, and autos. Other sectors using Si include chemicals (rubber, fluids, pharmaceuticals, cosmetics, sealants), healthcare (pharmaceuticals), construction, concrete, communications, renewable energy (solar PV panels, windmills), oil and gas, lithium-ion batteries, semi-conductors, computers, electronics, and steel.
- Currently 48% of Si metal goes into silicones (used mostly in cosmetics, medical, autos, electronics, construction); 35% into aluminium (autos, construction); 15% into polysilicon (solar PVs, electronics displays) and 2-3% into batteries (anodes, energy storage).

Si metal double growth outlook of alloys on back of renewable energy

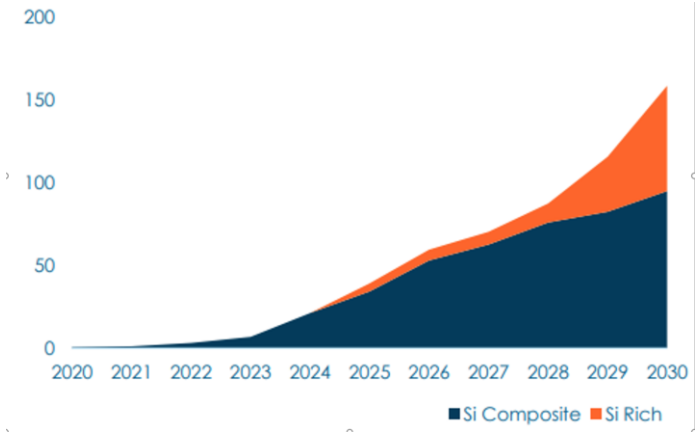
- *AlloyConsult* expects global consumption of FeSi, SiMn, and HCFeMn over 2020-2030 to be 2.1%, 2.5%, and 2.6%. Growth in EVs should mean less cast iron consumption of FeSi, but greater demand for Mn alloys. Growth rates for these alloys are generally in-line with global GDP and steel consumption growth. World Steel Association is forecasting -2.3% growth in steel consumption for 2022, and 1.0% in 2023m due to economic weakness.
- However Si metal overall CAGR is double that of FeSi and Mn alloys: 4-6% over 2023-2030 (*Straits Research, Grand View Research*), because of its exposure to higher growing renewable energy sectors. Key growth drivers are Si as an alloying agent for aluminium to replace steel in vehicles (making them lighter and more energy efficient), consumption for polysilicon use to make solar PV panels, as alloy foundry for windmills, and use as anode especially in EV LiBs, the last expected to have 56% CAGR over 2023-2030 (Figure 14).

Figure 14: Silicon metal consumption



Source: Ferroglobe.

Figure 15: Growth of Si consumption in batteries, ktpa



Source: Ferroglobe, P3 Group.

GLOBAL PRODUCERS

FeSi - OMH top 20 global producer

- In 2020 China was the world's largest producer of FeSi, accounting for 6.4Mt (66% share), followed by Russia 8%, Brazil 4%, and Malaysia and Norway 3% each (*AlloyConsult*). In Malaysia OMH is the larger of the country's two FeSi producers. OMH was the 10th largest producer globally in 2020, and 5th largest ex-China, although the conversion of four of its FeSi furnaces to Mn alloy and Si metal production will see it slip to somewhere between 15th to 17th globally. Leading global FeSi producers are Erdos (China), RFA International (Switzerland/Russia), Wuhai Junzheng (China), Ferroglobe (US/Spain) and Elkem (China).

Mn alloys - OMH to be in top 15

- Global SiMn and HCFeMn production was 14.6Mt and 4.1Mt in 2020. China accounts for 71% and 52% share respectively, while India ranks second for both (*AlloyConsult*) but is the world's largest exporter. Mn alloy production is very fragmented with the top 22 companies' aggregate market share under 50%. Leading Mn alloy producers include Privat (Ukraine), Eramet (France), South32 (Australia), South Manganese Investment (China), and Sichuan (China). OMH ranked 19th in 2020, but with recent furnace conversion will likely now rank somewhere around 15th or higher.

PRICING

- Most alloys are priced on spot or short-term contracts. Published prices for FeSi usually refer to standard grade 75% Si content. The difference between China domestic and export prices reflects 25% export tax. There is strong correlation between Mn alloys with Mn ore prices, given all are mostly driven by steel markets. Pricing of HCFMn is less quoted vs SiMn due to lower liquidity and absence of representative non-China Asian benchmark. OMH will be targeting production metallic Si 553 initially, referring to the benchmark grade of Fe (0.5%), aluminium (0.5%), and calcium (0.3%), with Si grade typically 98.5%.

Prices now easing from recent Russia-Ukraine war highs on weaker steel markets

- Over the past ten years FeSi price has varied between US$1,000-4,150/t cif Japan and SiMn US$600-1,545/t cif Japan. The sharp increases in prices in late 2021 and early 2022 was due to power shortages in China, including rationing on energy intensive industries, Covid restrictions, power shortages in Europe and India, spike in freight rates, and the Russia-Ukraine war. In 2021 Russia was the world's 2nd largest exporter of FeSi in 2021, while Ukraine was the 2nd largest exporter of Mn alloys. Since then prices have eased on weaker steel markets, and easing of freight rates. However there are pressures on China production due to limited availability, rationing, and cost of power – whether renewable or coal-fired - stricter environmental regulations, and tax disincentives which should limit the rate of easing.

Si prices may have mitigating effect from green energy

- Metallic Si prides are currently approximately US$3,000/t. We also expect some softening due to economic weakness, but risk could be to the upside if there is increase use by green energy sector (eg solar panels and EV batteries) providing a mitigating buffer.

- Our price forecasts are in Figure 16.

Figure 16: Commodity Price Forecasts

Y/e Dec	Unit	FY21a	FY22e	FY23e	FY24e	FY25e	LT
FeSi Japan CIF	US$/t	2,314	1,906	1,514	1,367	1,356	1,334
SiMn Japan CIF	US$/t	1,606	1,316	1,133	1,073	1,069	1,060
HCFeMn	US$/t	2,032	1,964	1,175	1,102	1,097	1,086
Si metal 553	US$/t	-	-	2,700	2,400	2,100	1,800
Mn 44% China CIF	US$/dmtu	5.21	6.18	5.57	5.03	4.99	4.91
A$	US$	0.72	0.69	0.71	0.73	0.74	0.75

Source: Foster Stockbroking estimates.

EARNINGS FORECASTS

Earnings higher in FY22-23e on production and prices, but easing in FY24e

- We forecast OMH's attributable earnings in Figure 17. Given its effective 13% investment in Tshipi and 75% controlling interest in Sarawak, the company equity accounts by reporting share of profit of associates for Tshipi, and consolidates Sarawak as 100%, showing minority attributable. However for each line item (eg sales, costs, EBITDA, etc.) in our forecasts, we have brought in OMH's share of Tshipi, rather than adding it as a one-item share of associates. Similarly, we have deducted the 25% minority interest at each line item for Sarawak, rather than subtracting it as one-item line as minority NPAT. We believe this provides more meaningful comparison of metrics such sales, EBITDA, or EBIT when comparing with peers, and market and sector multiples. We show the divisional splits and elimination adjustments.
- We forecast OMH attributable NPAT to increase in FY22 to US$92M from US$61M in FY21, driven by higher alloy prices and shipments offsetting input costs. We forecast NPAT US$102M in FY23e due to increase Mn alloy and metallic Si production, and then a decline to and US$79M in FY24e, won normalisation of alloy prices (Figure 18).

Figure 17: OMH Earnings Forecasts (attributable), US$M

Y/e December	FY21a	FY22e	FY23e	FY24e
Mining	129	90	101	95
Smelting	371	494	639	667
Marketing	695	688	799	743
Elimination	-457	-584	-595	-607
Sales	**738**	**688**	**944**	**898**
Mining	130	74	85	83
Smelting	271	374	519	569
Marketing	673	668	775	723
Corporate	5	5	5	5
Elimination	-457	-584	-595	-607
Costs	**623**	**537**	**788**	**771**
Mining	-2	16	17	12
Smelting	100	120	120	98
Marketing	22	20	24	22
Corporate	-5	-5	-5	-5
EBITDA	**115**	**152**	**155**	**127**
Mines	19	2	2	2
Smelter	19	22	22	22
Marketing	0	0	0	0
Corporate	0	0	0	0
D&A	**38**	**24**	**24**	**24**
Mines	-21	14	15	10
Smelter	81	99	99	76
Marketing	21	20	24	22
Corporate	-5	-5	-5	-5
EBIT	**77**	**128**	**131**	**103**
Net interest	11	13	16	11
PBT	66	115	116	92
Tax	5	23	14	13
NPAT attributable	**61**	**92**	**102**	**79**

Source: Company; Foster stockbroking estimates.

Figure 18: OMH smelter production, realised prices, and costs

Y/e December	Unit	FY21a	FY22e	FY23e	FY24e
Alloy shipments (100%)	kt	359	369	518	565
Ave realised alloy price	US$/t	1,337	1,766	1,596	1,488
Ave cash cost per alloy	US$/t	974	1,337	1,288	1,259

Source: Company; Foster Stockbroking estimates. Note OMH realised prices may differ to benchmark quoted prices due to differences in freight costs and alloy grades.

VALUATION

We value OMH at A$1.60/share

- We value OMH at A$1.60/share using NPV_{10} on company's equity share of cash flows from its Smelter and Marketing divisions. For OMH's 13% investment in Tshipi, we have also employed NPV_{10} on OMH's effective share of mine's cash flows. For Bootu Creek and BBJV, we estimate value by applying Mn peer average EV/JORC Resource multiple of A$9/t.
- Unsurprisingly, most of OMH's share value resides with Sarawak (A$1.35) and Marketing (A$0.39) which mostly relates sale of Sarawak product, followed by Tshipi (A$0.31). We estimate little value for Qinzhou given small scale and low margin, while low Resources at Bootu Creek (rejects and tailings) and the BBJV do not yet yield material value.

Figure 19: OMH Valuation, NPV_{10}

Segment	A$M	A$/share	Method
Sarawak smelter (75%)	994	$1.35	NPV_{10}
Qinzhou smelter	6	$0.01	NPV_{10}
Bootu Creek, BBJV, & other exploration	10	$0.01	EV/Resource multiple $9/t
Bootu Creek rehabilitation	-13	-$0.02	bond
Tshipi (13%)	228	$0.31	NPV_{10}
Marketing	291	$0.39	NPV_{10}
Corporate	-86	-$0.12	NPV_{10}
Working capital	-44	-$0.06	NPV_{10}
Net cash attributable	-205	-$0.28	balance sheet
Total	**1,180**	**$1.60**	
Shares ord. M	**739**		

Source: Foster stockbroking estimates.

GROWTH OPTIONS

Bid to wholly own Sarawak

- In May 2022 OMH made a US$120M binding cash offer to acquire the remaining 25% interest in OM Sarawak from CMSB, which would give it 100% ownership. The proposed transaction consideration includes full discharge of shareholder loans (including interest payable) which total US$10.5M.
- OMH and CMSB entered into a conditional share purchase agreement (SPA) in June 2022, with all conditions precedent satisfied on 15 September 2022. Financial close will take place on or prior to 13 December 2022, with OMH paying CMSB the consideration. OMH intends to fund consideration from a mix of cash, future cash flow, and/or equity in 2H22.

Bid implies value-accretive acquisition

- The US$120M offer by OMH values Sarawak EV at US$689M (100%), or A$1,077M. This is at 30% discount to our Sarawak EV of A$1,543M, implying that the acquisition should be value-accretive, subject to final funding. If equity is issued, the discount that Sarawak is being acquired for provides leeway to offset value decretion from any potential dilution. This is before any synergies, most likely from eliminating JV management and administration costs.

Figure 20: Implied OM Sarawak Valuation from OMH Offer

Implied EV from OMH	**US$M**
OMH offer for 25% equity	120
Less shareholder loan extinguishment	-11
Purchase price for 25%	110
Gross up price for 100%	438
Debt	251
EV Sarawak implied	**689**

Discount/Premium paid vs FSB value	**A$M**
EV Sarawak implied from OMH offer	1,077
EV from FSB	1,543
Discount to value	**30%**

Source: Company; Foster Stockbroking estimates.

- We do not model the acquisition in our OMH valuation or earnings forecasts at this stage, preferring to wait for it to complete.

Addition of more furnace capacity

- OMH has recently stated ambitions to add further furnace capacity to increase Mn alloy production. The growth in hydro power capacity at Sarawak is conducive to such ambitions.

Mn downstream opportunities for EV/batteries applications

- Other Mn compounds such Mn sulfate ($MnSO_4$), electrolytic Mn metal (EMM), and Mn dioxide (MnO_2) are potential downstream opportunities for OMH to explore to further diversify its customer base and expose itself to high growth markets. $MnSO_4$, EMM, and MnO_2 have relatively small exposures to steel markets, but offer pathways in LIBs for EVs. OMH could utilise its experience in Mn alloys, upcoming Si metal production, and integration raw material supply into examining this opportunity. An example is E25, who OMH has an offtake agreement with, that is examining $MnSO_4$ production for the battery market.

Higher value add from other silicon products

- Success in commissioning and selling its metallic Si may see OMH pursue further downstream opportunities in silicon such as polysilicon, which is critical to solar panel supply and currently dominated by China.

Low-cost position provides corporate appeal

- Given the Sarawak smelter's attractive position on the cost curve due its location allowing ESG-friendly cheap and abundant green power, we expect OMH could be a target for larger and higher cost peer producers wishing to move their cost curve position lower. Some of these producers have endured the pain of having to idle, close, or divest higher cost smelters, especially as global power costs escalate and supply tightens. Large global alloy producers that may be potential acquirers include Ferroglobe (US/Spain), Elkem (Norway), South Manganese Investment (China), Eramet (France), Erdos (China), and Privat (Ukraine).

RECOMMENDATION & PRICE TARGET

Initiate with Buy, 12-month PT of $1.60

- We initiate on OMH with a Buy recomemdnation and 12-month price target of $1.60, based on 1.0x NPV_{10} valuation.
- Catalysts for the stock inlcude 1) Commissioning and production ramp-up of metallic Si; 2) Gaining 100% control of OM Sarawak; 3) Examination of downstream opportunities in silicon and manganese, esepcially in renewable energy and EV applications; and 4) Dividend policy.

DIRECTORS

- **Low Ngee Tong**. **Executive Chairman and CEO.** Appointed CEO 1998, Chairman 2008. Qualified Mechanical Engineer from National University of Singapore, with 41 years' experience in steel, ferro-alloy, and building materials in Asia. Founder and CEO of OMH since incorporation.
- **Zainul Abidin Rasheed. Non-Executive Deputy Chairman.** *BA (Hons), Economics and Malay Studies,* University of Singapore. Was Singapore Member of Parliament 1997-2011. Previously was Editor of Berita Harian and Associate Editor Straits Times. Currently Ambassador to Kuwait.
- **Julie Anne Wolseley. Non-Executive Director and Company Secretary**. *BCom.* Chartered Accountant and Principal of a corporate advisory firm. 30 years' experience as company secretary for ASX resource companies. Previously Audit Manager for global accounting firm.
- **Tang Peng Chin. Non-Executive Director.** Appointed 2007. Founder, MD, and consultant of Tan Peng Chin LLC until 2015. Notary Public and Commissioner for Oaths 1995-2015, and Accredited Mediator with Singapore Mediation Center. Legal expertise in corporate finance.
- **Dato Abdul Hamid Bin Sh Mohamed. Non-Executive Director.** Fellow of Association of Chartered Certified Accountants Formerly worked with Kuala Lumpur Stock Exchange (Bursa Malaysia) for five years including position of CFO.
- **Tan Ming-li. Non-Executive Director**. *LLB (Hons) & Bsc*, University of Melbourne. Partner of Malaysian legal firm Chooi & Company + Cheang & Ariff. Has been in legal practice for over 26 years. Areas of expertise include corporate and securities law.

RISKS

The following risks may negatively impact the OMH share price:

1. **Sovereign risk**. Any change in government, policy, legislation, or fiscal policy of Malaysia, Australia, China, Bermuda, South Africa, or Singapore may markedly impact the ownership, profitability, or economics of the company's businesses and projects.
2. **Commodity price risk.** Lack of rises, or declines, in silicon metal, manganese ore, ferroalloy, or manganese alloy prices may negatively impact the economics of OMH's smelter business.
3. **Supply risk.** Any rise in the costs of, or restriction to, inputs such as manganese ore, quartz, iron sources, reductants, and power may impact alloy production or reduce the profitability of OMH.
4. **Financing risk.** To fund growth ambitions, OMH may raise equity which may dilute shareholders, and/or borrow debt which it may not be able to service.
5. **Economic and market risk.** Should global economic growth decline or share markets fall, this may reduce the appetite for both OMH's commodity exposure and its shares.
6. **Partner risk.** OMH owns assets in partnership with other entities. Any disagreement between it and its partners may impact economics or progress, negatively impacting share price.

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