

# ISDN Holdings

(ISDN SP/ISDN.SI)

## Harder, better, faster, stronger

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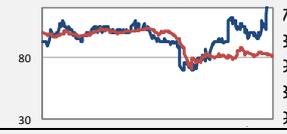
- We initiate coverage on ISDN with an **OUTPERFORM** recommendation and a target price of S\$0.42. Our TP is based on 14x FY21F EPS.
- The industrial robotics industry is expected to grow at ~12% CAGR, catalysed by the improvements of robot labour over manual labour. COVID-19 serves as another catalyst for automation, and ISDN should see tailwinds from this.
- Recent production figures indicate a possible rebound in complementary businesses, as well as good production from China. We expect 2020 to be a good year for industrial automation, after a lukewarm 2019.
- ISDN has also announced a profit surprise late July, creating substantial investor attention this week, prior to 1H20 earnings.

### Investment thesis:

**Harder, better, faster, stronger.** The industrial robotics industry, while having a fairly muted 2019 performance, is expected to continue growing ~12% annually. While this forecast was made before COVID-19, recent data has reflected that production is largely back on track. ISDN also stands to benefit from certain industry tailwinds due to its customer profile.

**May trough, June rebound.** June's machine tool production figures from Japan Machine Tool Builders' Association (JMTBA) have rebounded off April and May lows that were not seen since the Global Financial Crisis. Additionally, industrial robot production in China has also been steadily above 2019's production figures, despite the earlier lockdown.

**Surprise profit alert.** On 29 July, ISDN issued an announcement to inform investors that 1H20 results will have a substantial YoY profit beat. Given that 1H19 was substantially better than 2H19 results, we think continued momentum of the strong 1H20 results into 2H20 will lead to new highs in ISDN's performance.

Outperform - Initiation		Performance (Absolute)	
Price as of 6 Aug 20 (SGD)	0.37	1 Month (%)	76.7
12M TP (\$)	0.42	3 Month (%)	95.3
Previous TP (\$)	-	12 Month (%)	75.9
Upside, incl div (%)	15.0		
Trading data		Perf. vs STI Index (Red)	
Mkt Cap (\$mn)	163		
Issued Shares (mn)	430		
Vol - 3M Daily avg (mn)	3.0		
Val - 3M Daily avg (\$mn)	0.8		
Free Float (%)	63.1%		
Major Shareholders		Previous Recommendations	
Teo Cher Koon	31.8%		
Novo Tellus	8.9%		

### Financials & Key Operating Statistics

YE Dec (\$\$ m)	2018	2019	2020F	2021F	2022F
Revenue	301,990	290,985	308,040	327,431	348,374
PATMI	10,946	7,047	11,733	12,515	13,359
EPS (cents)	2.77	1.68	2.80	2.99	3.19
EPS growth (%)	15.4%	(39.3%)	66.5%	6.7%	6.7%
DPS (Sing cents)	0.70	0.40	0.70	0.75	0.80
Div Yield (%)	1.9%	1.1%	1.9%	2.0%	2.2%
Net Profit Margin (%)	5.5%	4.9%	6.3%	6.4%	6.4%
Net Gearing (%)	Net Cash				
Price P/B (x)	1.02	1.01	0.96	0.91	0.86
ROE (%)	7.8%	4.8%	7.5%	7.5%	7.6%

Source: Company data, KGI Research

**Valuation & Action:** We value using PE methodology, applying a 14x multiple to FY21F earnings, and arrive at a TP of S\$0.42. This represents a 14% upside to Wednesday's close price of S\$0.37, and implies a 1.02x FY21F P/B value.

Our valuations are fairly conservative, given the profit surprise is at least 64% of our estimated FY20F profit. We see further upside should ISDN be able to replicate 1H20's performance.

**Risks:** Continued slow-down of IA industry, extensive delays on hydropower projects, Forex risk.

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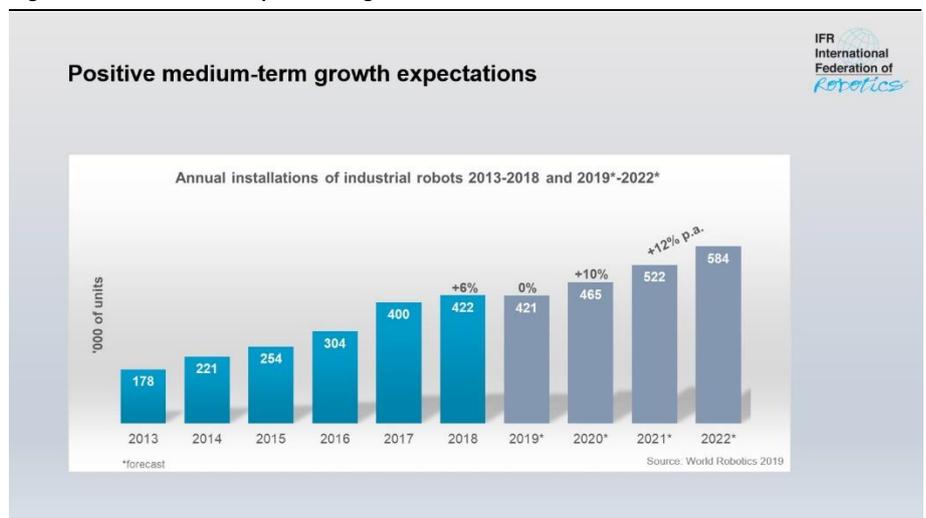
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## Investment Thesis

### Industrial Robotics 101

The industrial robotics industry is concentrated in 5 key geographical markets: China, Japan, US, Korea, and Germany, with China being the largest market. China has been the largest industrial robot market since 2013, accounting for ~36% total installations in 2017 and 2018. While installations increased at a 19% CAGR from 2013 to 2018 and was largely flat from 2018 to 2019, the International Federation of Robotics (IFR) is expecting a 12% CAGR from 2020 to 2022, where there will be an estimated 584,000 unit installations. Similarly, Fuji Keizai estimates a ~12% CAGR for manufacturing-related robots, where the market will grow from JPY 1,170 bn in 2019 to 2,273 bn in 2025.

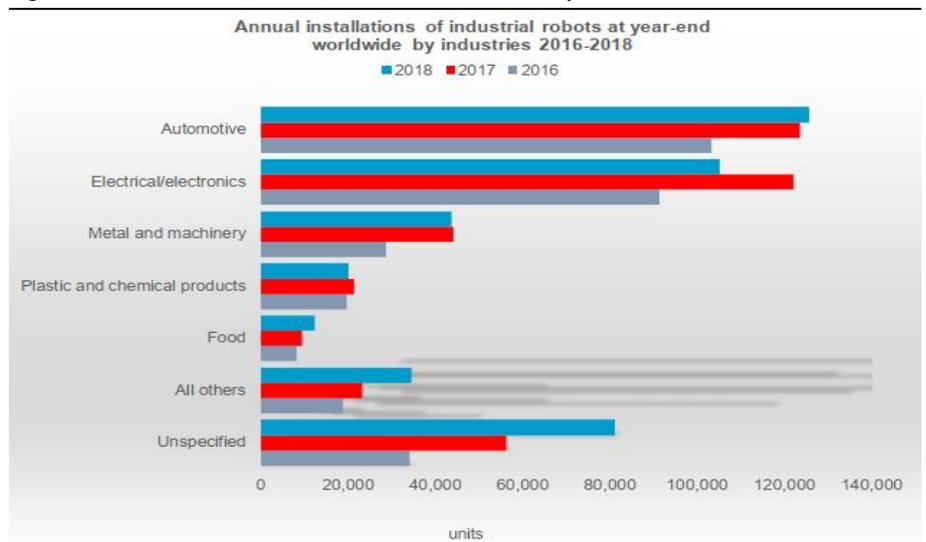
**Figure 1: IFR estimates 12% per annum growth of industrial robot installations**



Source: International Federation of Robotics

Industry-wise, industrial robot installations have 2 key end markets: for the automotive industry, and the electrical and electronics industry. The automotive market takes up ~30% of market share, and electrical/electronics (including computers, radio, TV, communication devices, medical, precision and optical instruments) takes up ~25%, but are likely poised to overtake the automotive industry in robot and automation demand in the coming years.

**Figure 2: Automotive and electrical/electronics are the two key sectors for robotics**



Source: International Federation of Robotics

The types of industrial robots can be simplified into 4 categories:

- 1) Welding and coating robots, which are used to assist with joining parts together (especially heavy components), and to produce a more efficient coating/painting experience than manual labour can do. The auto industry has the biggest demand for such robots, given the number of heavy components that a vehicle has, and the need for painting large surface areas. Example: Arc/Spot Welding, Painting, Deburring
- 2) Assembly and transport robots, which help to replace mundane labour tasks and speed up the production process, while also increasing accuracy and precision of production. This takes up the biggest share of the industrial robot market, and has the most manufacturer diversity, given their usage across all kinds of factories. Example: SCARA, palletizing, pick and place.
- 3) Wafer/Clean Transfer systems, a specialised robot used in transferring fairly fragile or sensitive equipment from place to place, usually in a Clean Room environment. The two key items that drive market demand would be semiconductor wafers and Flat Panel Display substrates.
- 4) Actuator systems, single-axis robots with fairly repetitive functions which are usually combined with other robots to achieve a particular goal. Some examples include tightening screws, cutting, positioning, or transferring of materials.

ISDN's motion control solutions are in assembly/transport and actuator systems, with the ability to provide a fully integrated solution from design to installation, or provide sub-assembly works for more technically complicated machines such as Surface Mount Technology (SMT) equipment. Demand for motion control is fairly ubiquitous across all industrial factories, thus customers come from all kinds of industries, such as automotive, medical, aerospace, semiconductor, textile, oil & gas etc.

### ISDN to ride on industry tailwinds

While IFR and Fuji Keizai's market forecasts were made before COVID-19, we think the uptrend should remain intact, as [recent data indicates](#). Furthermore, ISDN has minimal exposure to the weakened automotive industry, (~5% revenue FY19), and good exposure to medical device industry (~7% FY19) and semiconductor industry (~21% FY19). ISDN's customers in the latter two industries should see good business – Deloitte estimates that global healthcare spending should rise at an estimated 5% CAGR from 2019 to 2023, while SEMI expects semiconductor manufacturing equipment sales to grow 6% YoY in 2020, followed by 13% YoY growth in 2021.

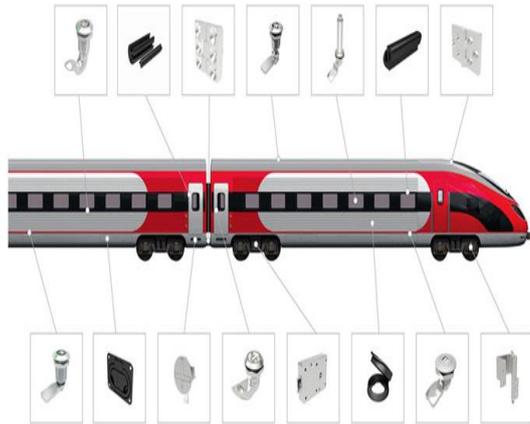
### Side businesses

#### Other engineering solutions – locked and loaded for growth

ISDN also engages in other specialised engineering solutions, enabled through their partnerships with other engineering companies. Solutions include industrial vision and laser technologies, industrial locks and hinges, special purpose motors and gears, contributing about 20% of total sales. Key partners include the Dirak Group; specialising in hinges, locks and latches which are used in the railway and transportation industry, DBASIX whom produce factory components related to machine structure, motion devices and conveyors, Eisele who produce gearbox components for machine builders, Leaptron; focusing on industrial automation through producing automation solutions and software for the various industrial robots, and Accel-Tech, that designs and manufacture Direct Drive Linear Motion and Rotary Motion solutions, which supplements ISDN's motion control capabilities.

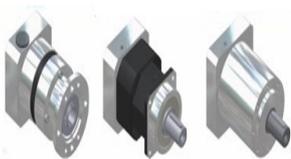
**Figure 3: Partners in specialised engineering solutions**

Dirak Asia was set up in Singapore in 1997 and has built up a strong manufacturing base in Suzhou China since 2001. With subsidiaries in Taiwan and Beijing as well, Dirak Asia supplies solutions to Singapore, China, Indonesia and Malaysia. ISDN Holdings now owns a 49% equity stake in Dirak Asia.

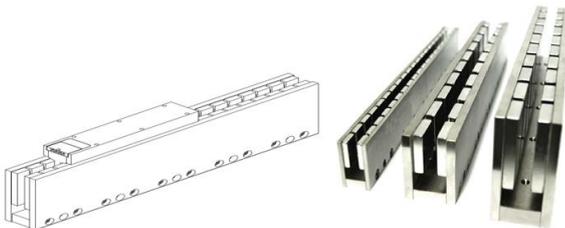


Mr Reinhold Eisele founded the first company in 1952 in Pflaffingen Germany producing components for the machine builder (OEMs). "Planetary Gearboxes" was added as a core product to our existing comprehensive portfolio of products. Firstly, Eisele only focus its business in Europe and America. Until 2001, We began marketing and selling to Asia.

With more than 5 decades of experience, constant innovation, product quality emphasis and competent customer service, Eisele being an ideal partner to fulfilling your needs and requirements.



**AcceTechnologies**

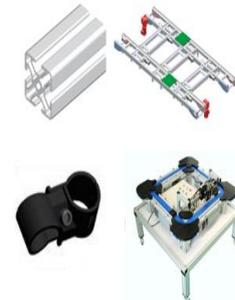


Source: Company



Our company is experienced in the standard component industry in relation to machine structure, motion devices and conveyors. We are committed to constant research in developing effective solutions to the varied requirements of industrial automation.

The DBASIX profile system is easy to process and quick to assemble. It's flexible and modular construction means it can be easily modified and re-used at any time.



**LEAPTRON**  
*Intelligence in Control*

Located in Singapore, Leaptron conducts business around Asia and engage in every aspect of industrial automation, including sales, marketing, distribution, sub-system solution and software customization in the various dynamic market segments including aviation, building, factory automation, food, infrastructure, life science, marine control, medical & healthcare, metal works, power/smart grid, semiconductor and transportation.

At Leaptron, we offer human orientated automation solutions. Our dedicated and passionate team will be there to provide products, services and value added solutions that will cater to all your automation challenges, improving productivity and in turn the lives of human.



### IT software infrastructure

As part of Industry 4.0, ISDN restructured and established an Industrial Computing business, capitalising the opportunity in assisting clients to digitalise as part of smart factory solutions. While providing value-add to clients, ISDN gets to build up recurring revenue streams through software subscription, with additional hardware or software sales. One such solution is Wonderware, an industrial software programme from AVEVA (now owned by Schneider Electric). While currently at a small portion of business at 2.2% of FY19 sales, we think conversion rates should rise as more companies invest further into automation and productivity.

## Renewable energy – building towards stability

ISDN has made investments into renewable energy since 2013, with substantial stakes in Indonesian companies that are to develop mini hydropower plants (plants producing <10 MW of power) in certain rural areas of Indonesia. Currently, 3 mini hydropower plants totalling 24.6 MW of power are scheduled to be operational by 2020, but COVID-19 has led to delays regarding their operationally ready date. The latest update given during the company's AGM is that the plants will be operational at end 2020 or early 2021. ISDN also has interest in developing another 60 MW of power to serve Indonesia's growing energy needs upon the completion of the first 3 plants. Indonesia has an Electricity Supply Business Plan with a target to have ~23% of total energy from renewable sources by 2025, and to have this reach 31% by 2050.

A secondary renewable energy investment made by ISDN was in the solar business, since 2017. On 25 May 2017, ISDN has agreed with Comtec Solar Systems Group on a partnership to develop, design, construct and operate solar power generation station projects. Since 2018, this partnership has led to the operation of a 1 MW solar power plant within ISDN's industrial park. We think the partnership can lead to further cost savings for ISDN if the company is able to effectively build out more power plants for their personal use, with further monetization a possibility down the road.

**Figure 4: ISDN's 1 MW solar power plant in Wujiang Industrial Park**



Source: Company data

## Other businesses – opportunities amidst a crisis

During COVID-19, ISDN saw an opportunity to provide anti-COVID-19 industrial products to the market with minimal investment. ISDN served as a distributor of two industrial sanitation products, Waterliq and Erstotizer, from Germany-based ERST Project GmbH to Asia. With two announced commercial deployments, we think ISDN displayed its agility and quick reaction in capitalising on business opportunities, and should see a small boost to sales and profits, to tide the delay of contribution from renewables.

## Trough in May?

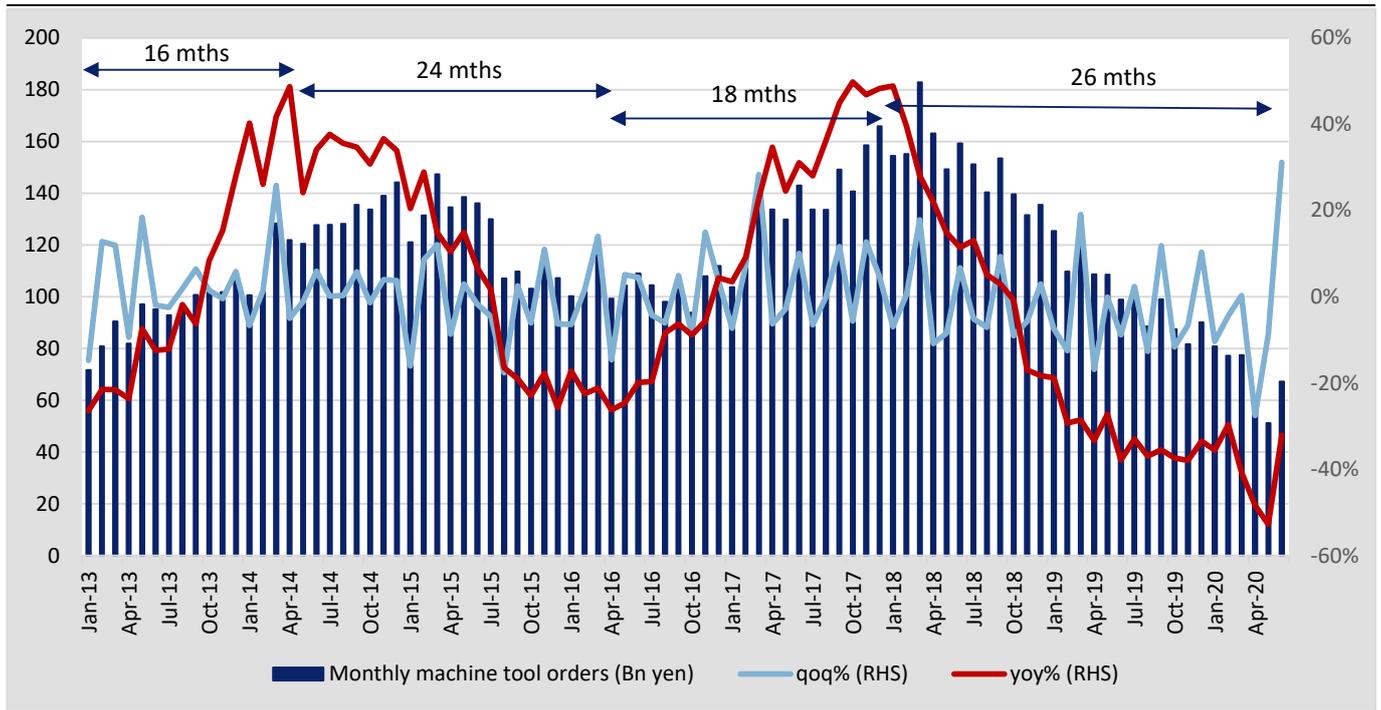
The slowdown in automation demand in 2019 is reflected through complementary and/or competing businesses, such as machine tool orders from Japan, where orders peaked in April 2018 and have been in a downtrend since. A similar, albeit less severe and shorter slowdown occurred in the machine tools industry from April 2014 to April 2016, which also led to slower growth of robotic installations during 2015.

The latest results from the Japan Machine Tool Builders' Association (JMTBA) for June 2020 have been released, with a significant 31% month-on-month increase in

machine tool orders. While the JPY 67.2 bn order figure is still -32% YoY, the figure broke a 26 month downtrend, and could be the inflection point of the cycle.

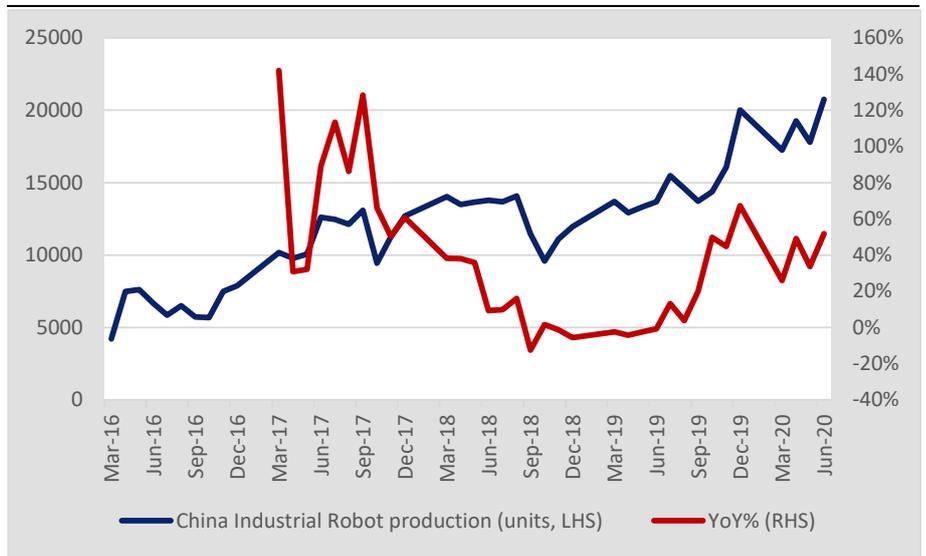
While Germany and Korea, the other two industrial robot heavyweights, lack updated 2Q20 industry production data, we think the recent stream of economic data from China indicates a healthy return to business-as-usual in ISDN's key market. In China, the National Bureau of Statistics collects data on monthly industrial robot production, which rose 29.2% YoY in June to 20,761 units. 6M20 production is +10.3% YoY, coming off a slight 2019 lull. The use of robotics and industrial automation is encouraged by the increased need for safe and social distancing in the current and post-COVID-19 environment.

Figure 5: Japanese machine tools see strong order rebound in June 2020



Source: JMTBA

Figure 6: China's industrial robot production continues climb in 2020



Source: National Bureau of Statistics

## Profit surprise

On 29 July, ISDN announced a positive profit alert, indicating to the public that 1H20 unaudited net profit will post a minimum of 50% YoY gain, driven by strong growth in ISDN core business order book, construction revenue growth from the hydropower business, and a reduction in operating expenses. The share price climbed ~20% following the announcement. Given 1H19's profit of S\$ 8.3 mn, a 50% outperformance indicates a minimum 1H20 profit of S\$ 12.5 mn, which is already ~88% of FY19's profit. Should 1H20 performance be replicable for 2H20, ISDN should easily post an annual all-time high in profits.

### Valuation

**Revenue:** We kept specialised solutions and industrial computing solutions flat-lined, as we think COVID headwinds may cancel out industrial-specific tailwinds in these segments for the time being. We estimate for the core engineering business of motion control to grow 8-10% YoY, below industry CAGR estimates of 12%, but above recent growth rates, as we expect an incoming industry upcycle. Total revenue for FY20/21/22F are at S\$ 308/327/348mn.

We pencil in 27% gross margins and a recovery of profit margins to 6.3 – 6.5%, buoyed by operational improvements; for example the usage of Salesforce, a Customer Relationship Management software to better manage clients; and a judicious salary review of key management that would lead to an extra ~ S\$ 1mn per year in the company coffers. PATMI estimates for FY20/21/22F are at S\$ 11.7/12.5/13.4mn respectively.

**Valuation:** Recent renewed investment interest in ISDN has drove up historic PE ratio to ~18x, based off weak 2019 earnings. Even at 18x, ISDN remains fairly cheap relative to peers’ average of 48x 12M historic PE. We value ISDN with 14x PE of FY21 earnings, above their regular trading band, as we see incoming automation tailwinds to lift ISDN from its prior state. We arrive at a target price of S\$0.42, a 14% upside to Wednesday’s close price of S\$0.37.

**Figure 7: ISDN’s recent share price gains drove up PE ratio, we think 14x not a stretch for valuations**



Source: Bloomberg, KGI Research

**Figure 8: Peer comparison table**

Bloomberg Ticker	Company Name	Last Price (local \$)	Currency Adj. Market Cap (US\$ m)	Dividend Yield (%)		Net Gearing (%)*	P/E (x)		P/B (x)		YTD Price Performance (%)	1YR Price Performance (%)	1YR Total Returns (%)
				FY19	FY20F		12M	Forward	FY19	FY20F			
ISDN SP	ISDN HOLDINGS LTD	SGD 0.38	119	1.7	2.1	-3.9	22.3	13.3	0.6	1.0	67.4	79.1	78.3
<b>Motion control related companies</b>													
6645 JP	OMRON CORP	JPY 7540.00	14,739	1.5	1.1	-29.0	37.5	41.2	2.1	2.8	17.4	51.4	54.4
2049 TT	HIWIN TECHNOLOGIES CORP	TWD 306.50	3,234	-	0.7	75.0	110.0	48.7	3.7	3.8	9.1	26.7	30.3
AIMC US	ALTRA INDUSTRIAL MOTION CORP	USD 36.00	2,328	1.9	1.2	75.6	21.2	17.7	1.2	1.2	-0.6	44.2	44.2
AMOT US	ALLIED MOTION TECHNOLOGIES	USD 39.63	386	0.2	-	95.0	24.2	45.9	3.9	-	-18.3	10.5	9.1
<b>Average</b>			<b>5,172</b>	<b>1.2</b>	<b>1.0</b>	<b>54.2</b>	<b>48.2</b>	<b>38.4</b>	<b>2.7</b>	<b>2.6</b>	<b>1.9</b>	<b>33.2</b>	<b>34.5</b>
<b>Median</b>			<b>2,781</b>	<b>1.5</b>	<b>1.1</b>	<b>75.3</b>	<b>30.8</b>	<b>43.6</b>	<b>2.9</b>	<b>2.8</b>	<b>4.2</b>	<b>35.4</b>	<b>37.2</b>
<b>Japan automation-related companies</b>													
6861 JP	KEYENCE CORP	JPY 42860.00	98,795	0.6	0.5	-53.7	55.2	52.9	4.4	5.5	11.4	40.1	41.0
6954 JP	FANUC CORP	JPY 18295.00	35,012	2.0	1.1	-38.9	59.3	57.9	2.1	2.6	-9.6	1.5	1.7
6645 JP	OMRON CORP	JPY 7540.00	14,739	1.5	1.1	-29.0	37.5	41.2	2.1	2.8	17.4	51.4	54.4
6506 JP	YASKAWA ELECTRIC CORP	JPY 3605.00	9,112	1.5	1.0	17.9	66.1	60.8	3.9	4.1	-13.5	9.9	8.7
6324 JP	HARMONIC DRIVE SYSTEMS INC	JPY 6410.00	5,851	0.4	0.3	-9.1	#N/A N/A	227.5	4.6	6.2	21.6	71.2	69.0
6845 JP	AZBIL CORP	JPY 3510.00	4,830	1.8	1.4	-42.1	24.0	25.7	2.1	2.5	13.8	32.8	33.9
6841 JP	YOKOGAWA ELECTRIC CORP	JPY 1736.00	4,420	2.6	2.0	-14.4	31.6	19.9	1.2	1.5	-10.0	-12.4	-6.2
6481 JP	THK CO LTD	JPY 2460.00	3,121	1.1	0.8	-14.6	240.9	78.5	1.3	1.1	-17.1	0.1	-1.0
6407 JP	CKD CORP	JPY 2102.00	1,353	1.2	1.2	5.5	35.3	26.0	1.1	1.5	14.4	120.3	103.5
<b>Average</b>			<b>19,693</b>	<b>1.4</b>	<b>1.0</b>	<b>(19.8)</b>	<b>68.7</b>	<b>65.6</b>	<b>2.5</b>	<b>3.1</b>	<b>3.1</b>	<b>35.0</b>	<b>33.9</b>
<b>Median</b>			<b>5,851</b>	<b>1.5</b>	<b>1.1</b>	<b>(14.6)</b>	<b>46.4</b>	<b>52.9</b>	<b>2.1</b>	<b>2.6</b>	<b>11.4</b>	<b>32.8</b>	<b>33.9</b>
<b>Europe automation-related companies</b>													
KUKAF US	KUKA AG	USD 45.00	1,820	-	0.4	-4.6	Field Not Appli	#N/A N/A	-	1.6	18.4	-6.2	-8.1
ABBN SW	ABB LTD-REG	CHF 23.55	56,283	3.3	3.2	42.7	50.9	33.8	3.8	3.7	0.8	35.5	41.0
OEMB SS	OEM INTERNATIONAL AB-B SHS	SEK 248.00	664	2.8	-	12.4	19.2	#N/A N/A	5.4	-	-0.8	9.3	8.8
HMS SS	HMS NETWORKS AB	SEK 205.00	1,109	1.1	0.7	39.3	43.7	52.0	8.1	8.0	18.6	31.7	26.9
ISR GR	ISRA VISION AG	EUR 49.26	1,283	0.4	-	-0.6	53.5	#N/A N/A	3.9	-	26.8	41.9	41.7
<b>Average</b>			<b>12,232</b>	<b>1.9</b>	<b>1.4</b>	<b>18</b>	<b>42</b>	<b>43</b>	<b>5</b>	<b>4</b>	<b>12.8</b>	<b>22.4</b>	<b>22.1</b>
<b>Median</b>			<b>1,283</b>	<b>1.9</b>	<b>0.7</b>	<b>12</b>	<b>47</b>	<b>43</b>	<b>5</b>	<b>4</b>	<b>18.4</b>	<b>31.7</b>	<b>26.9</b>
<b>North American automation-related companies</b>													
ATA CN	ATS AUTOMATION TOOLING SYS	CAD 17.62	1,227	0.0	-	35.3	22.1	21.2	1.7	0.0	-17.8	-13.4	-14.1
ROK US	ROCKWELL AUTOMATION INC	USD 223.94	25,970	2.4	1.8	296.6	28.9	29.8	47.2	27.7	10.5	47.4	49.5
CGNX US	COGNEX CORP	USD 68.64	11,878	0.4	0.3	-29.1	155.1	97.6	7.1	8.3	22.5	59.8	61.4
<b>Average</b>			<b>13,025</b>	<b>0.9</b>	<b>1.1</b>	<b>101</b>	<b>69</b>	<b>50</b>	<b>19</b>	<b>12</b>	<b>5.1</b>	<b>31.3</b>	<b>32.3</b>
<b>Median</b>			<b>11,878</b>	<b>0.4</b>	<b>1.1</b>	<b>35</b>	<b>29</b>	<b>30</b>	<b>7</b>	<b>8</b>	<b>10.5</b>	<b>47.4</b>	<b>49.5</b>

Source: Bloomberg, KGI Research

## Risks

### Continued weakness in Industrial Automation

While the downcycle has lasted for a prolonged period of time, there remains a possibility that the recent rebound could be a dead cat bounce situation, and that IA could continue the downcycle. We see this as unlikely given ISDN's recent profit alert. However, visibility of the IA business is fairly limited as projects tend to have short (<1 year) completion periods. This, combined with ISDN's choppy profitability, could mean greater downside risk.

### Project delays

ISDN's Indonesian hydropower projects have undergone considerable delay – while mini hydropower plants are expected to be completed within 1.5 – 2 years, ISDN has been working on these plants since 2013 and none of the plants are operational yet. The current COVID-19 crisis has created another delay as the Indonesian government is likely to de-prioritise the completion of the power plant in order to minimise human contact. We remain cautiously optimistic with regards to their future contributions, but will not be surprised if an unfavourable disposal occurs that leads to an asset write-down.

### Forex risk

ISDN has majority of sales to China which involves Renminbi, and also has Forex exposure to Swiss Franc, Euro, and USD. Additionally, ISDN's dual listing exposes the share price to HKD. ISDN hedges against FX risk by holding on to foreign currencies for transactions, or engaging in forward currency contracts if necessary.

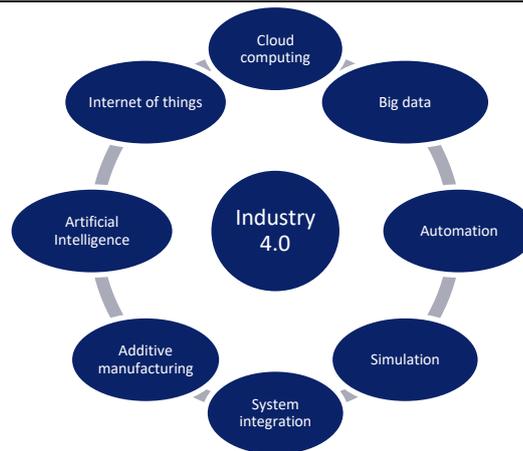
**Background information**

**Macro overview**

**Renaissance of industrial revolution - from Industry 4.0 to Made in China 2025**

Industry 4.0, also called the fourth industrial revolution, is a concept that was initiated by Germany in 2011 to generalise the next generation of manufacturing. It is a combination of traditional manufacturing and the state-of-the-art technologies to level up manufacturing in terms of both quality and quantity.

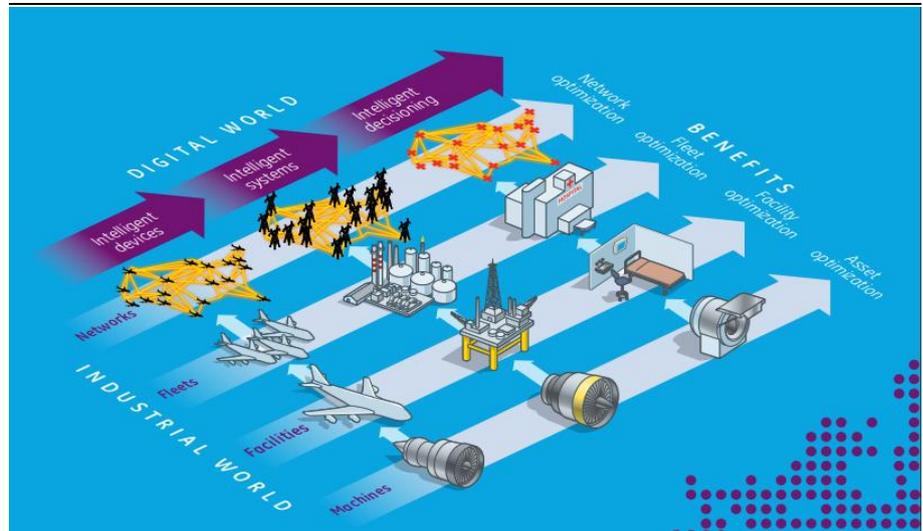
**Figure 9: Content of Industry 4.0**



Source: KGI Research

In less than a decade, major economies have recognised the trend and have implemented strategies on a national level. Germany is the first mover to formally introduce the idea at the Hannover Fair in 2012. That same year, General Electric proposed Industrial Internet Revolution, which was similar to Industry 4.0. It envisaged networks to link up human, machines, and data. In 2014, the Industrial Internet Consortium was founded to bring together the organisations and technologies to accelerate the growth of the industrial internet by identifying, assembling, testing and promoting best practices. The consortium’s committee members included market leaders of technology, telecommunication, and manufacturing such as GE, AT&T, Cisco, IBM, Intel, and Microsoft.

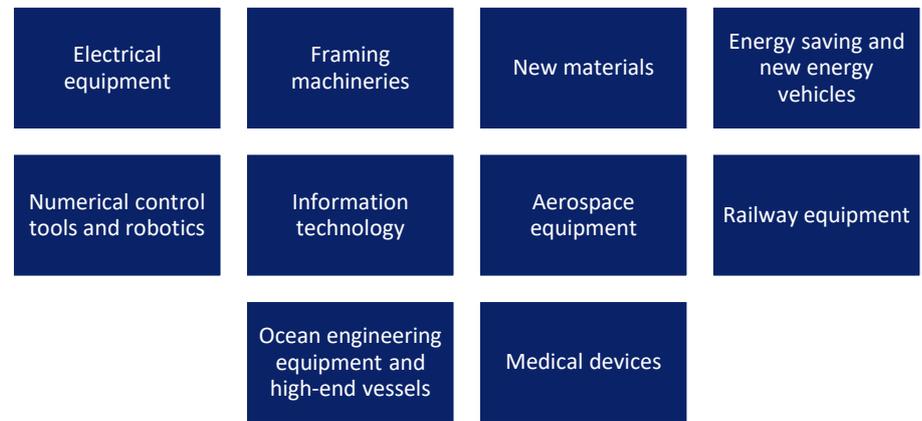
**Figure 10: Applications of Industrial Internet**



Source: GE

To actualise the concept, China published a strategic plan “Made in China 2025” in 2015 to stipulate ten key sectors for the application of the concept. The vision of the ambitious plan is to upgrade the manufacturing sector and gradually remove China’s reliance on foreign technologies and parts, thereby encouraging the overall economy to move up the value chain and gain more industrial value add.

**Figure 11: Made in China 2025 targeted sectors**



Source: KGI Research

It is estimated that the new wave of industrial revolution can directly and indirectly add US\$15tn to global GDP by 2030, according to projections by General Electric. Both developed and developing countries are aiming to have a piece of the pie. Developed economies such as EU, Japan, and US have advantages over technology and related applications. The goal for them is to continue to have a firm grip on advanced technologies, thereby establishing industrial standards to maintain their leading market positions for the next decades.

On the other hand, developing economies had been positioning on the lower end of the value chain, but are now targeting to gain a bigger share of the middle and upper end of the manufacturing supply chain. This is especially true for China, tagged as the world’s factory since becoming a member of the World Trade Organization (WTO) in 2001, and is now focused on gaining more share in advanced manufacturing and transforming its market position to becoming a leader rather than just being a follower.

**Opportunities and challenges for China doing industry upgrade and transformation**

As of 2019, China’s secondary industry accounted for 39% (a low in a decade) of total GDP. The decline to GDP contribution does not indicate China’s industry is tapering but that its economy has been changing structurally towards consumption of goods and services, as they become the main propellant of growth.

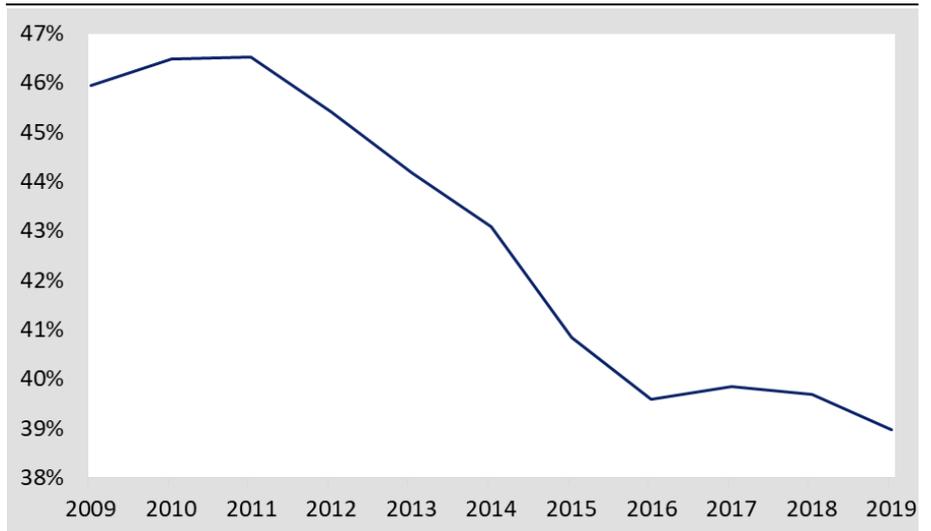
However, manufacturing remains the base of consumption. The current position of the manufacturing sector is still mainly concentrated in the mid- to low-end of the value chain. Here, we use the industry value added/Industry sales ratio as proxy to industry value added ratio which measures the manufacturing economic efficiency (the higher the ratio, the more profit gains in the value chain).

The ratio started to rise after China announced the Made-in-China 2025 in 2015. Although it reached 37% by 2019, compared to the advanced manufacturing countries such as Germany and Japan whose industry value added ratios has maintained above 50%, there is room for China to move up the high-end production in the value chain.

China is the only country that participates in the whole industry supply chain based on the United Nations industry segment classification (41 main segments, 191 mid-subsegments, and 525 small-subsegments). Meanwhile, China is the largest trading nation worldwide. In 2018, China's total trade in goods was US\$4.6tn (12.4% of global trade), followed by the US (11.5%) and Germany (7.7%).

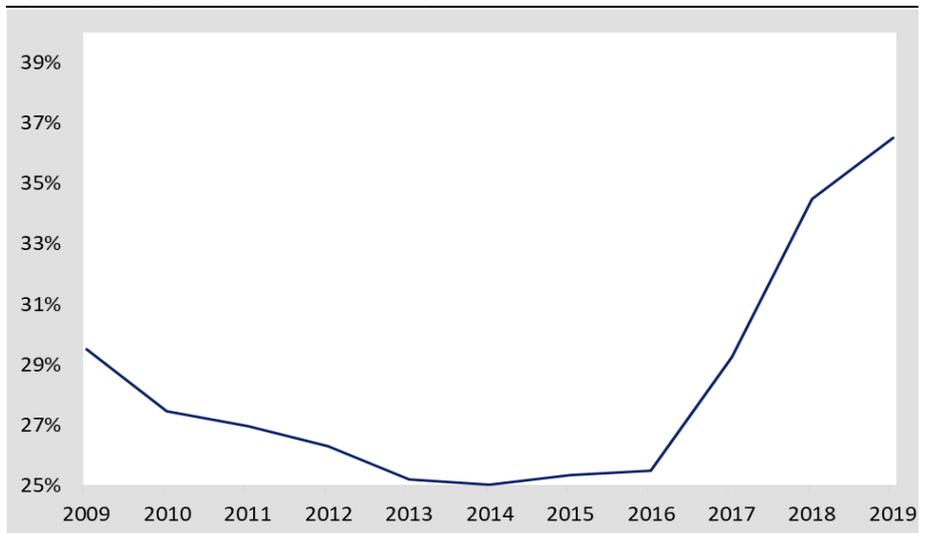
Therefore, China plays a very critical role in the global supply chain. But in the next few decades, China's manufacturing industry will focus on quality instead of quantity. To put it another way, China aims to provide more high-end products that are comparable to those from the advanced economies such as US, Germany, and Japan.

**Figure 12: Declining secondary industry weight in total GDP in China**



Source: CEIC, KGI Research

**Figure 13: Rising industry value added/Industry sales ratio**



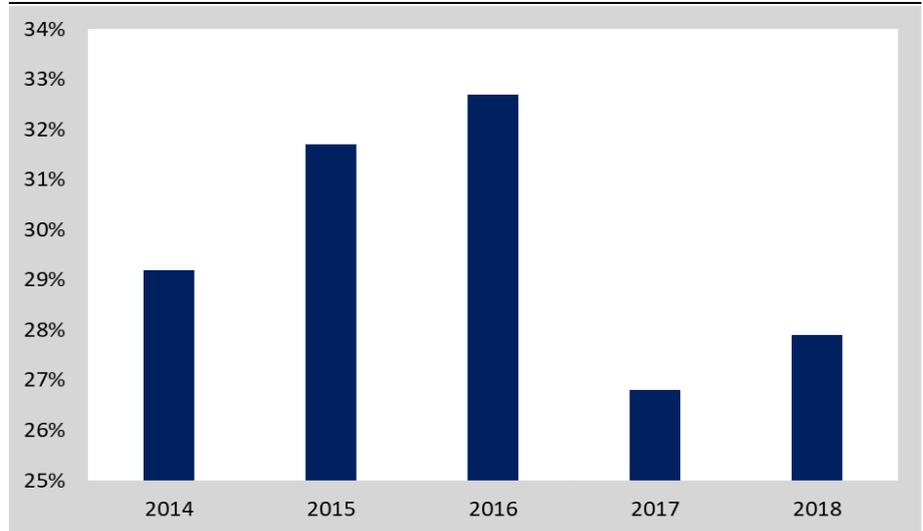
Source: CEIC, KGI Research

There are a few challenges in this paradigm shift. Firstly, China lacks core technologies, parts, and related software or systems which are the fundamentals for upgrading and transforming industries. Smart manufacturing systems combine computer numeric control (CNC) centre, industrial robots, embedded chips, and related software.

Currently, 90% of chips, more than 80% of industrial software, 80% of CNC platforms, and 70% of industrial robots are imported. The heavy reliance on imports of the core equipment, parts, and systems is a threat and hurdle for the advancement of the

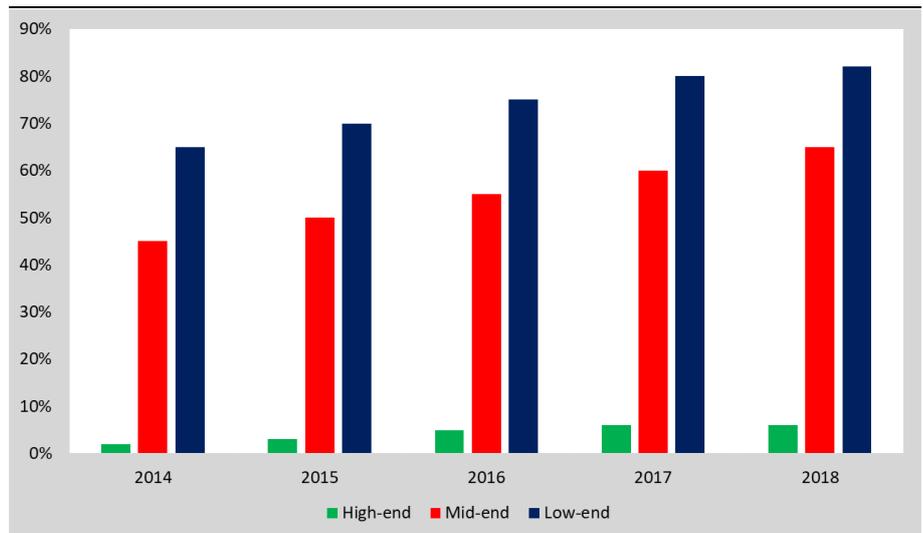
manufacturing segment given the escalation of geopolitical tensions in recent years. Trade tensions have resulted in the export restrictions of these core technology and equipment from foreign countries to China, and this will prove to be a headwind for the next wave of industrialisation in China.

**Figure 14: Industry robot import substitution rate**



Source: IFR, KGI Research

**Figure 15: CNC platform import substitution rate**

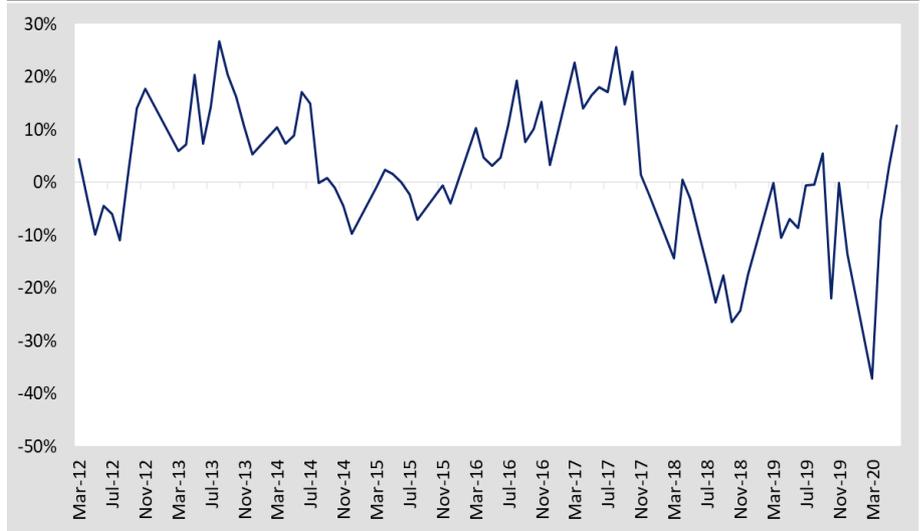


Source: IFR, KGI Research

Secondly, industry enterprises are facing trade-offs between the ramp-up of capacity (which could lift revenues and profits in the short run) or the increase in R&D expenditures (which will fundamentally upgrade the production and enhance profitability in the long run). Given the decline in profits in recent years, most companies have opted to stick to the former path.

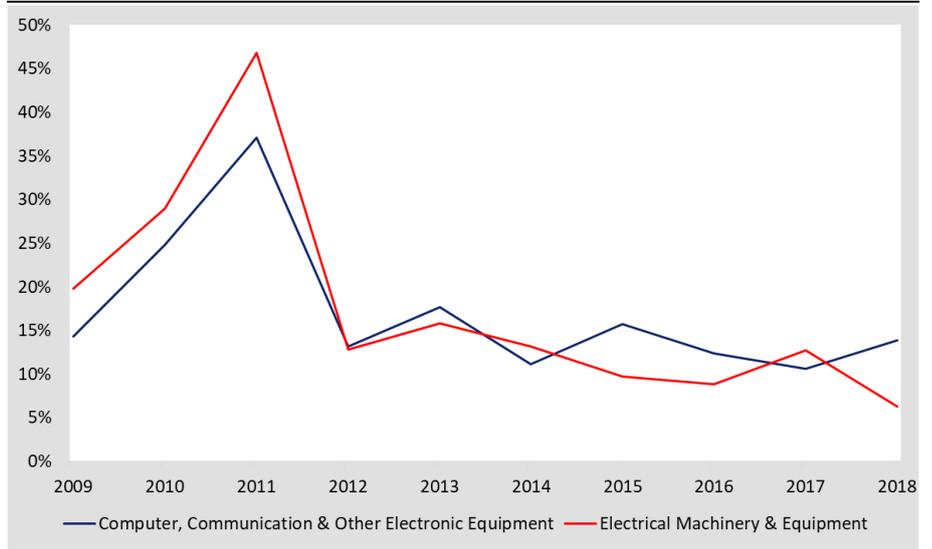
However, the key driver in the next industry revolution is innovation, which requires substantial R&D expenditures. Without sufficient R&D, manufacturing companies will gradually lose competitiveness. Without technological edge, the sector has to resort to the old model which is to leverage cheap labour cost. However, low manpower cost is no longer a strength for China when emerging countries such as Vietnam, India, and Indonesia have been taking more market shares of low-end production. Therefore, the manufacturing industry has to bear short-term pain in exchange for long term gain.

Figure 16: Industry enterprise total profit YoY growth



Source: CEIC, KGI Research

Figure 17: R&D expenditure YoY growth



Source: CEIC, KGI Research

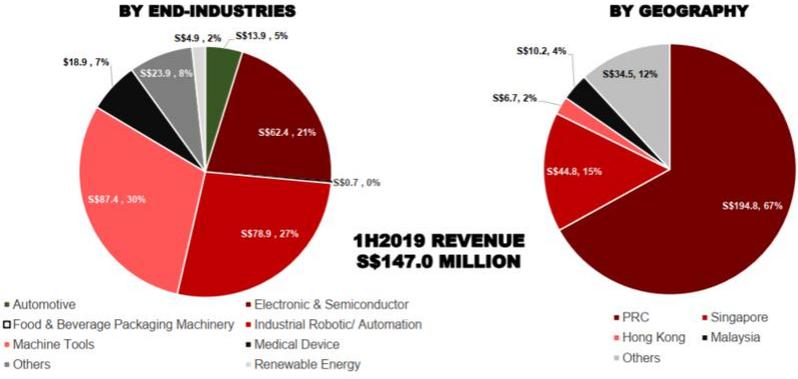
Last but not least, industry standards are pivotal. Whoever establishes standards will lead the revolution for decades. The US is well known for setting up industrial and institutional standards. Germany is good at technological and product standards, and Japan has a strength in industrial management standards. China has been a follower in the last round of industrialisation. At the moment, both advanced and emerging economies strive to be the first one to establish as many standards as possible. Therefore, this is both an opportunity and challenge for China.

## Company Overview

ISDN was formed in 1986 as an engineering solutions company specialising in Industrial Automation. The company engages the entire engineering stage, from conceptualisation of design to prototyping, production and after-sales engineering support. ISDN's long term customer relationships has allowed them to branch out and provide other specialised engineering solutions for their clients. In recent years, ISDN has also diversified out to renewable energy, through the development of hydropower plants in Indonesia. The company largely derives revenue from China, with over 69% of sales attributed to the region.

**Figure 18: ISDN's segmental revenue for FY19**

**FY2019 Revenue Breakdown**



**Strong end-industry diversification and strategic geographical mix**

Source: Company data, KGI Research

ISDN is headquartered in Singapore with 81 subsidiaries and 74 sales offices across Asia. In China, ISDN has an industrial factory with approximately 40,657 sqm gross floor area, used to manufacture ISDN's products such as hinges, locks, gearboxes and other industrial hardware for the specialised engineering division. As of 31 December 2019, ISDN has 881 employees with ~37% as sales and engineering staff.

ISDN has been listed on Singapore's SGX-ST main board since 2005. In 2016, ISDN decided to pursue a secondary listing on the Hong Kong Stock Exchange, and was listed on the main board of SEHK on 12 January 2017.

**Peer Review - Motion Control companies**

**Allied Motion Technologies (AMOT US)** designs, manufactures, and sells motion control products into applications that serve various industry sectors. Its key markets are the US (66% of sales) and Europe (34% of sales).

**Figure 19: Allied Motion Technologies' line of motion control products**

Wide Breadth of Technologies

- Motion Controllers: single-axis & multi-axis
- Drives: Integrated & Stand-Alone
- Motors: Brushless and Brushed DC
- Gearing: Parallel, Inline, Right Angle & Epicyclic
- Encoders: Incremental & Absolute
- Mechanical Products for Steering Systems
- Active (electronic) and passive (magnetic) filters for power quality and harmonic issues

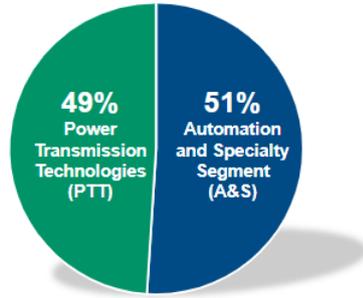


Source: Company data, KGI Research

**Altra Industrial Motion Corp (AIMC US)** designs, produces and markets a wide range of mechanical power transmission and motion control products. AIMC's key markets are North America (52% of sales) and Europe (30% of sales).

**Figure 20: Altra Motion Corp's product line-up**

**Revenue by Segment**



**Engineered Products Serving Niche Markets**

Market Application	Segment
Servo Motors For Collaborative Robots	A&S
Motors for Surgical Power Tools	A&S
Software Controls for Autonomous Guided Vehicles	A&S
Linear Actuators for Construction Machinery	A&S
Linear Actuators in the Marine Market	A&S
Engine Retarding Systems for Class 8 Trucks	A&S
Overrunning Clutches for Helicopter Rotors	PTT
Clutch Brakes for Lawn Mowers	PTT
Brakes for Wind Turbines	PTT
Industrial Electromagnetic Clutch Brakes	PTT

Source: Company data, KGI Research

**Hiwin Technologies Corp (2049 TT)** sells motion control and other factory automation systems. Hiwin Technologies is the world's second-largest linear motion product vendor after THK (6481 JP). Linear guides account for the lion's share of sales, representing 66%, followed by ball screws (19%) and industrial robots (9%).

Hiwin Technologies mainly serves the Asian markets, with 71% of sales coming from Asia (excluding Taiwan), followed by Europe (18%), Taiwan (6%) and Americas (5%).

**Figure 21: Hiwin Technologies Corp's product line**



Source: Company data, KGI Research

**Positive outlook.** Hiwin has stated that visibility remains short at 1-3 months but that capacity is currently fully loaded, and that it can only fulfil orders on extended working hours. The company guides 3Q20 sales to be up QoQ, in line with our Taiwan colleagues' expectation, and 2H20 will be better than 1H20, underpinned by demand from 5G, semiconductor, medical and automation, while machine tool and auto are seeing signs of recovery. Adding to this positive comments, we observed that Hiwin's total inventory dropped substantially to a 1.5-year low of 161 days in 2Q20, below the average of 163 days.

**THK Co Ltd (6481 JP)** manufactures industrial linear motion systems applied to products such as robots, machine tools and semiconductor equipment. THK is the world's largest linear motion product vendor.

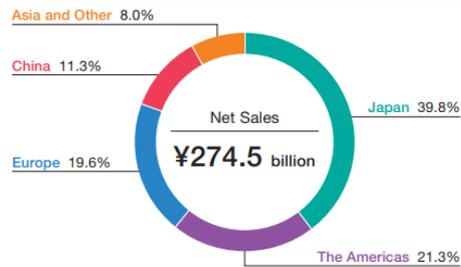
**Figure 22: THK Co Ltd introduced these new automation products at the 2019 International Robot Exhibition**



Source: Company, KGI Research

THK supplies mainly to its home market of Japan (39% of sales), The Americas (21% of sales) and Europe (20%). It also has 11% of sales to China.

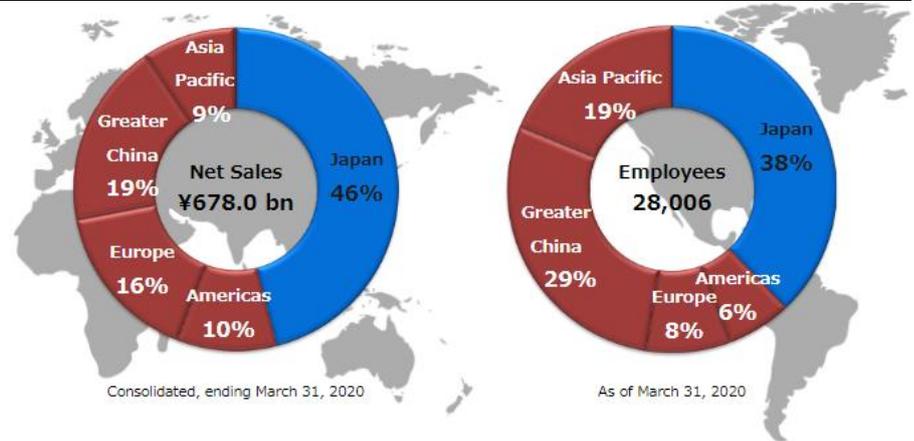
**Figure 23: THK's geographical exposure by sales**



Source: Company, KGI Research

**Omron Corporation (6645 JP)** manufactures electronic components, equipment and systems used for factory automation. Japan is its largest market, accounting for 46% of sales. China (19% of sales) and Europe (16%) are its next two largest markets, the remainder of sales are to the Americas (10%) and the rest of Asia Pacific (9%).

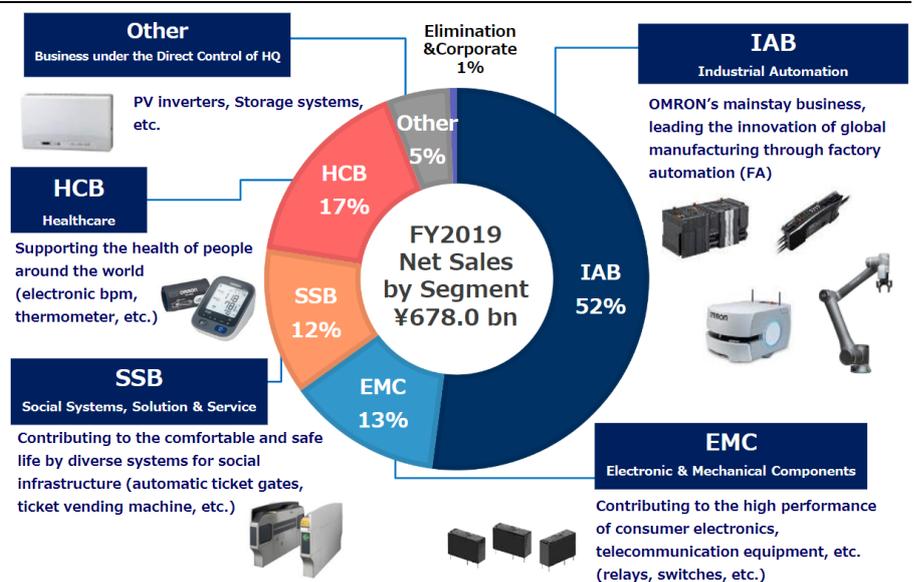
**Figure 24: Omron Corporation's geographical sales breakdown**



Source: Company data, KGI Research

Industrial automation products, including servo motors, vision sensors and programmable controllers, makes up 52% of Omron's total sales in FY2019.

**Figure 25: Omron Corporation's business segment breakdown**



Source: Company data, KGI Research

**Financials**

FYE 31 December					
<b>INCOME STATEMENT (SGD mn)</b>	<b>2018</b>	<b>2019</b>	<b>2020F</b>	<b>2021F</b>	<b>2022F</b>
<b>Revenues</b>	<b>301,990</b>	<b>290,985</b>	<b>308,040</b>	<b>327,431</b>	<b>348,374</b>
Cost of sales	(221,441)	(213,560)	(224,869)	(239,025)	(254,313)
Gross profit	80,549	77,425	83,171	88,406	94,061
Other operating income	4,933	3,356	4,621	4,911	5,226
Distribution costs	(25,672)	(25,588)	(25,567)	(27,177)	(28,915)
Administrative expenses	(30,859)	(30,993)	(31,112)	(33,071)	(35,186)
Net impairment losses on financial assets	(2,503)	(446)	–	–	–
Other operating expenses	(2,085)	(1,287)	(1,540)	(1,637)	(1,742)
Finance costs	(1,035)	(2,107)	(1,637)	(1,637)	(1,637)
Share of (loss) / profit of associates, net	368	(138)	–	–	–
Profit before income tax	23,696	20,222	27,935	29,796	31,807
Income tax	(7,118)	(6,030)	(8,380)	(8,939)	(9,542)
Profit for the year	16,578	14,192	19,554	20,858	22,265
Non-controlling interests	5,632	7,145	7,822	8,343	8,906
PATMI	10,946	7,047	11,733	12,515	13,359
<b>BALANCE SHEET (SGD mn)</b>	<b>2018</b>	<b>2019</b>	<b>2020F</b>	<b>2021F</b>	<b>2022F</b>
Cash and cash equivalents	41,877	37,998	48,551	59,963	72,302
Other current assets	157,018	164,935	164,935	164,935	164,935
<b>Total current assets</b>	<b>198,895</b>	<b>202,933</b>	<b>213,486</b>	<b>224,898</b>	<b>237,237</b>
Property, plant and equipment	39,314	43,965	43,385	42,610	41,627
Intangible assets	12,227	12,227	12,227	12,227	12,227
Service concession receivables	30,233	34,261	34,261	34,261	34,261
Other non-current assets	38,275	42,637	42,637	42,637	42,637
<b>Total non-current assets</b>	<b>89,816</b>	<b>98,829</b>	<b>98,249</b>	<b>97,474</b>	<b>96,491</b>
<b>Total assets</b>	<b>288,711</b>	<b>301,762</b>	<b>311,735</b>	<b>322,372</b>	<b>333,727</b>
Trade and other payables	58,783	60,769	60,769	60,769	60,769
Loans and contract liabilities	27,020	29,099	29,099	29,099	29,099
Other current liabilities	2,367	4,264	4,264	4,264	4,264
<b>Total current liabilities</b>	<b>88,170</b>	<b>94,132</b>	<b>94,132</b>	<b>94,132</b>	<b>94,132</b>
Borrowings	11,842	7,096	7,096	7,096	7,096
Other non-current liabilities	881	1,964	1,964	1,964	1,964
<b>Total non-current liabilities</b>	<b>12,723</b>	<b>9,060</b>	<b>9,060</b>	<b>9,060</b>	<b>9,060</b>
<b>Total liabilities</b>	<b>100,893</b>	<b>103,192</b>	<b>103,192</b>	<b>103,192</b>	<b>103,192</b>
Unitholders' funds and reserves	187,818	198,570	208,543	219,180	230,535
<b>Total liabilities and equity</b>	<b>288,711</b>	<b>301,762</b>	<b>311,735</b>	<b>322,372</b>	<b>333,727</b>
<b>CASH FLOW STATEMENT (SGD mn)</b>	<b>2018</b>	<b>2019</b>	<b>2020F</b>	<b>2021F</b>	<b>2022F</b>
<b>Profit before tax</b>	<b>23,696</b>	<b>20,222</b>	<b>27,935</b>	<b>29,796</b>	<b>31,807</b>
Adjustments	4,901	7,812	11,547	4,911	5,121
<b>Operating cash flows before WC changes</b>	<b>28,597</b>	<b>28,034</b>	<b>39,482</b>	<b>34,708</b>	<b>36,928</b>
Change in working capital	20,111	(5,358)	–	–	–
Income tax paid	(5,708)	(5,721)	(8,380)	(8,939)	(9,542)
Other adjustments	(30,667)	(6,475)	(1,637)	(1,637)	(1,637)
<b>Cash flows from operations</b>	<b>12,333</b>	<b>10,480</b>	<b>29,465</b>	<b>24,132</b>	<b>25,749</b>
Capital expenditure	(2,632)	(5,017)	(2,500)	(2,500)	(2,500)
Acquisition of subsidiaries	(5,297)	–	–	–	–
Others	(5,687)	(4,798)	–	–	–
<b>Cash flows from investing</b>	<b>(13,616)</b>	<b>(9,815)</b>	<b>(2,500)</b>	<b>(2,500)</b>	<b>(2,500)</b>
Lease payments	(183)	(1,718)	–	–	–
Dividends paid	(8,643)	(7,215)	(9,582)	(10,220)	(10,910)
Interest paid	–	(163)	–	–	–
Other financing cashflow	9,446	2,066	–	–	–
<b>Cash flows from financing</b>	<b>620</b>	<b>(7,030)</b>	<b>(9,582)</b>	<b>(10,220)</b>	<b>(10,910)</b>
FX Effects, Others	(135)	278	–	–	–
<b>Net increase in cash</b>	<b>(663)</b>	<b>(6,365)</b>	<b>17,383</b>	<b>11,412</b>	<b>12,339</b>
Beginning Cash	38,053	37,255	31,168	48,551	59,963
<b>Ending cash</b>	<b>37,255</b>	<b>31,168</b>	<b>48,551</b>	<b>59,963</b>	<b>72,302</b>
<b>KEY RATIOS</b>	<b>2018</b>	<b>2019</b>	<b>2020F</b>	<b>2021F</b>	<b>2022F</b>
EPS (SGD cents)	2.77	1.68	2.80	2.99	3.19
DPS (SGD cents)	0.70	0.40	0.70	0.75	0.80
Dividend yield (%)	1.9%	1.1%	1.9%	2.0%	2.2%
NAV per share (SGD cents)	0.4	0.4	0.4	0.4	0.4
Price/NAV (x)	1.0	1.0	1.0	0.9	0.9
<b>Profitability</b>					
EBITDA Margin (%)	8.9%	7.0%	9.1%	9.1%	9.1%
Net Margin (%)	5.5%	4.9%	6.3%	6.4%	6.4%
ROE (ex. Property FV gain) (%)	7.8%	4.8%	7.5%	7.5%	7.6%
ROA (ex. Property FV gain) (%)	6.3%	4.8%	6.4%	6.6%	6.8%
<b>Financial Structure</b>					
Interest Coverage Ratio (x)	23.9	10.6	18.1	19.2	20.4
Gearing Ratio (%)	Net Cash	Net Cash	Net Cash	Net Cash	Net Cash

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Rating	Definition
<b>Outperform (OP)</b>	We take a positive view on the stock. The stock is expected to outperform the expected total return of the KGI coverage universe in the related market over a 12-month investment horizon.
<b>Neutral (N)</b>	We take a neutral view on the stock. The stock is expected to perform in line with the expected total return of the KGI coverage universe in the related market over a 12-month investment horizon.
<b>Underperform (U)</b>	We take a negative view on the stock. The stock is expected to underperform the expected total return of the KGI coverage universe in the related market over a 12-month investment horizon.
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