

FY2021 PRESENTATION



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GSS ENERGY OVERVIEW

Established in 1979, GSS Energy has 2 main business segments:



Precision Engineering



Oil & Gas



~S\$40m

Market Cap



~65%

Free Float



9

Manufacturing Facilities



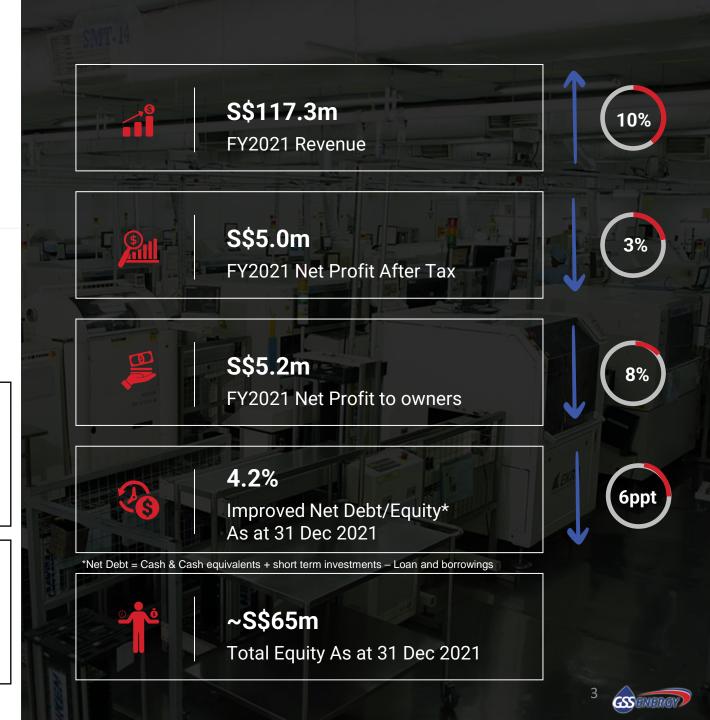
>40

Years of operational track record



~2,200

Employees



KEY MILESTONES











1979

Founded in Singapore 1991

Establishment of PT. Giken Precision Indonesia in Batam 1992

Relocated headquarters from Japan to Singapore 1993

Listed on Singapore Stock Exchange (SESDAQ)

SGX

1994

Establishment of Changzhou Giken Precision Co., Ltd





2021

Proposed acquisition of Thai Emobility R&D company, Edison Motors

Launched first electric motorcycle Iso UNO-X under the historic Italian brand Iso







2018-2019

Acquired land in Batam for precision engineering expansion

Ventured into broader development of electric mobility

Completed motorcycle assembly line in Batam



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2015

Completed restructuring by way of a scheme of arrangement

Listing status transferred to **GSS Energy Ltd**



2014

Invested in O&G business



Trembul Block



Precision Engineering

Electric Mobility





PRECISION ENGINEERING



9 MANUFACTURING FACILITIES

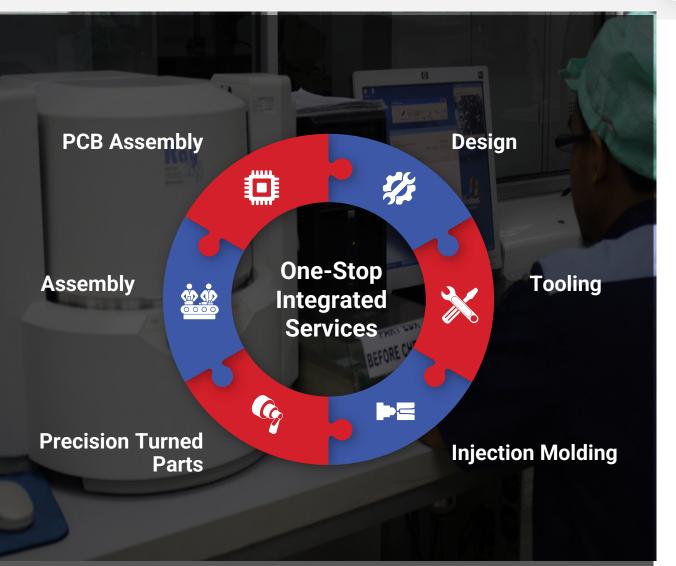
In 3 countries – China, Singapore and Indonesia











Electronic Manufacturing Services - Batam (Indonesia)

Manufactures high precision components such as plastic injection moulding parts, Printed Circuit Board (PCB) Assembly and Class 100k Cleanroom and complete box assembly







Precision Shafts and machining - Changzhou (China) and Singapore

Manufactures precision turned parts such as motor shafts, customized turned components for various industries and high precision machining parts





9 MANUFACTURING FACILITIES

In 3 countries – China, Singapore and Indonesia









ELECTRONIC MANUFACTURING SERVICES – 2021 Utilisation: >90%

Batam, Indonesia





Factory area: 28,000 sqm



Plastic Injection Moulding & Class 100k Cleanroom (ISO 13485 certified)

~ 20% Revenue

56 units of machine 7T-530T

27 electric injection machines



Printed Circuit Board Assembly (PCBA) >50% of Precision Engineering revenue

25 SMT lines for PCBA



Product Assembly

~ 5% Revenue



9 MANUFACTURING FACILITIES

In 3 countries – China, Singapore and Indonesia









PRECISION SHAFTS AND MACHINING - 2021 Utilisation: >90%

Singapore











Changzhou, China





Factory area: 1,080 sqm



Specialize: Manufacture precision turning parts & grinding parts







Factory area: 14,057 sqm



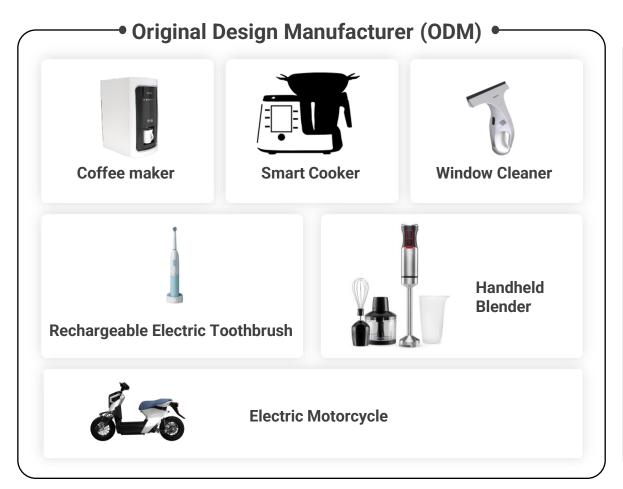
Specialize: Precision turning parts, plastic injection, PCBA and assembly







PRODUCT PORTFOLIO



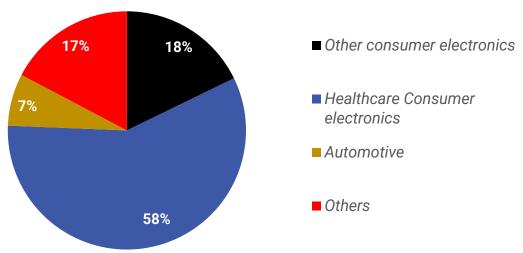


ODM tends to have higher margins vs OEM by 5 to 10 ppt

We intend to grow our ODM sales contribution by 20% by 2023

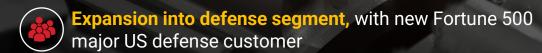
DIVERSIFIED CUSTOMER BASE

Precision Engineering Revenue by Sector



































































































OIL AND GAS

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A RISK FREE CARRY FROM 0&G

Past Happenings

- After initial discovery of oil in 2018, the Group decided to farm out the project due to the outlook of O&G, and the decision to focus its resources on precision engineering
- Entered into agreement with Oakhurst Investment, which has committed investment for the CAPEX and OPEX for the development of the project
- The project has received all regulatory permits, and is in the midst of establishing the wellhead to connect to the prospective gas buyer



Oakhurst has a defined schedule to drill 5 wells in the Trembul Operation Area

Phase 1 – Till GSS recovers US\$7m from 50% of revenue generated

	Oakhurst	GSS	Comments
Revenue	50%	50%	GSS is entitled to 50% of revenue generated till it recovers its sunk cost in the project (i.e. US\$7m)
Cost	100%	0%	Oakhurst will commit the CAPEX and OPEX for the development of the project and production of oil

Status	Production expected to commence in 2022		
Area	47.6 sq km		
Location	Bloral Regency in Central Java Province, Indonesia		
2P Reserves	24.3m barrels (up to 800m)		
Off-Taker	PT Pertamina EP		
Interest	Crude 23.5%, natural gas 31.4%		
Contract validity	Till 2031		
GSS Energy's stake	20%		

Phase 2 – GSS has a free carry on 16% of the profits after recovering its cost

	Oakhurst	GSS	Comments
Revenue	100%	0%	
Cost	100%	0%	Oakhurst will commit the CAPEX and OPEX for the project development and production of oil
Profit	64%	16%	GSS has a free carry on 16% of the profits. The provincial government will be entitled to the remaining 20% of the profits generated

Est production cost ~US\$15-18/barrel, WTI Crude (as at 11 Jan 2022):~US\$80/barrel

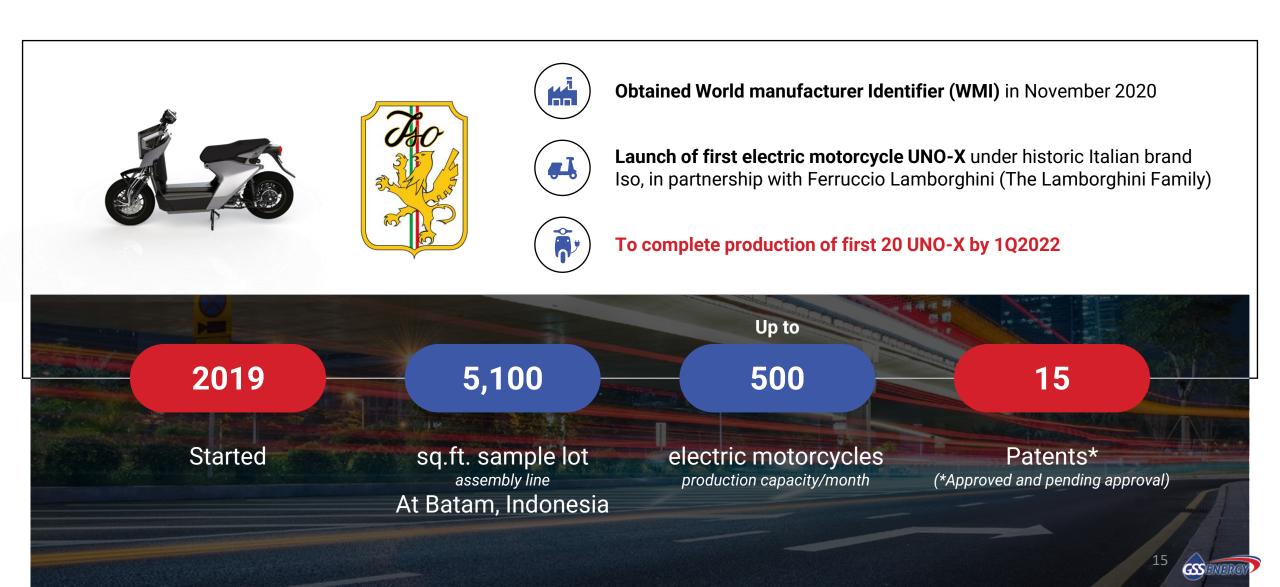




ELECTRIC MOBILITY

End-to-end development and manufacturing capabilities

of electric motorcycles and related necessary peripherals.



PARTNERSHIPS

Battery Cell Manufacturing Partners







Product Partners

Government Partners





Brand Partner



Testing & Certification Partners



- Engaged Edison Motors for the design of UNO-X.
- Assembly Factory Audited by MOI, Indonesia.
- World Manufacturer Identifier obtained

- Completed 15,000 km Ride Testing;
- · Proposed acquisition of Edison Motors
- · Showcase of Iso UNO-X at EICMA, Milan

End-to-end development and production of electric motorcycles and related necessary peripherals



Research

Guide projects down new and fascinating paths

In-depth R&D as needed



Ideation

Risk evaluation

Design plan

Refine and test the

look and function



Engineering

Create 2D/3D CAD

Model simulations

Validate and refine primary design features



Prototyping

Validate product requirements

Confirm design

Functionality Test



Manufacturing

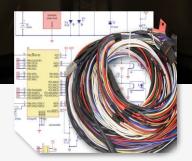
In-house manufacturing facilities

Quality Control

Packing & Deliver















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End-to-end development of electric motorcycles and related necessary peripherals



Proposed Acquisition of Edison Motors

A Thai company specializing in design of electric motorcycles, EV batteries, powertrains and related engineering.



MOTORCYCLE

An electric motorcycle with the same riding experience as 150cc petrol bike.



BATTERY PACK

High power battery pack with a state-of-the-art BMS.





SOFTWARE

On-device firmware to software and management & customer apps (iPhone and Android) developed in-house.



INFRASTRUCTURE

Home charger provided and charging / swapping stations being researched.



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End-to-end development of electric motorcycles and related necessary peripherals



Complete motorcycle Assembly

Designed & implemented assembly process World Manufacturer Identifier (WMI) secured (PT. GTI WMI no.: M.F.Y)

Located in Batam, Indonesia



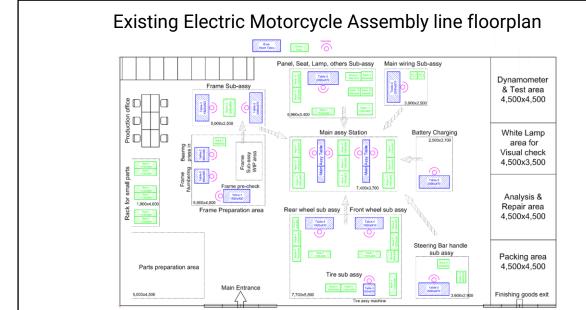
5,100

sq.ft. sample lot assembly line



~500

motorcycles per month



Available building to expand production capacity to up to 5,000 Electric motorcycles/month





- Electric bike under design.
- Completed motorcycle assembly line in Batam

- 2020
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Isomoto

Mr. Ferruccio Lamborghini (The Lamborghini Family) has licensed his family iconic brand Isomoto to Giken Mobility until 2044.



Top Speed 115 Km/H

Range 130 Km

Trunk 25

Carry

250_{Kg}

Power

5_{Kw}

Fast Charge

1.5 Hours

Ingress

IP67 Battery & Motor

Electric bike under design.

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Body Swapping Design

PATENTS PENDING



4 design patents on the motor & suspension



5 patents on the bike designs



1 invention patent pending approval.





Modular part design, allows for easy maintenance and lower design turnaround times.



Each part of the bike can be easily replaced in less than 5 steps.



The centre mount motor with a belt drive offers better performance, smoother ride, and easy maintenance



Lesser overall components = lesser maintenance for the customers.

Electric bike under design.

in Batam

Completed motorcycle assembly line

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- o Removable battery pack 77V, 42Ah, 27kg in weight.
- o Over Voltage, Under Voltage, Internal & External Short Circuit, Over Charge, Over Discharge, Over Current, Over Heating, Thermal Runway protections in-built with BMS control.
- o 30 internal sensors, 8 of which are used for data transfer on the CAN Bus. (same communication like a 4-wheeler such as Tesla)
- o 5 design patents pending approval on the battery designs.







7" Color LCD Touch Screen 3G/4G, Bluetooth, Wifi, CAN bus GPS, Accelerometer



Overall, 30 internal sensors collecting critical data.



Bike

- o Connected by CAN bus
- o Over 5 sensors from CBS brake, speed, temperature, etc.



Motor

- o Connected by CAN bus
- o Over 5 sensors from RPM, temperature, humidity, etc.



Battery BMS

- o Connected by CAN bus
- Over 8 sensors to collect data on temperature, voltage, current, etc.



Electric bike under design.

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Recent Event

EICMA 2021- Milan

EICMA 2021 is an important international show dedicated to motorbikes and the world of 2- wheelers and is a reference point for motorbike aficionados to learn about the developments in biking. It involves the participation of the leading brands in the motorbike sector.







ELECTRIC MOBILITY PEER COMPARISON

VS. PEERS [Gasoline]

Electric motorcycles			
Brand Model Name Brand Origin	Iso UNO-X Italy	Honda PCX Japan	Yamaha Nmax Japan
Max. Speed [kmph] Modes	130 Eco, Sport	118	110
Motor Power [kW]	5.0	-	-
Max. Range at low, constant speed [km]	150	320	270
Battery Type, IP rating	Removable, IP67	-	-
Charging Type Fast Charging Time _[h]	Wall Plug 1.5	- -	- -
Trunk Space [L]	25	27	25
Modularity & Scalability	High	Low	Low
Design Timeline	6 months to new design	>1 year	>1 year
Maintenance	Low and easy	High	High
Price [USD]	TBC	2,850	2,150

VS. PEERS

Electric motorcycles				
Brand Model Name Brand Origin	lso Uno X Italy	Niu NQi GT/S China	Piaggio Vespa Elettrica Italy	Gogoro 3 Premium Taiwan
Max. Speed [kmph] Modes	130 Eco, Sport	70 E-Save, Dynamic, Sport	70 -	97 -
Motor Power [kW]	5.0 3.0		3.6	5.0
Max. Range at low, constant speed _[km]	150	155	100	170
Battery Type, IP rating	Removable, IP67	Swappable, IP67	Fixed	Swappable, IP67
Charging Type Fast Charging Time _[h]	Wall Plug 1.5			Swapping only -
Trunk Space _[L]	25	0	20	26.5
Modularity & Scalability	High	Low	Low	Medium
Design Timeline	6 months to new design	>1 year to new design	5 years to new design	6 mos to new design
Maintenance	Low and easy	Low	Low	Low
Price [USD]	TBC	5,500	7,300	3,555

VS. PEERS [MY & VN]

		A THE REAL PROPERTY AND ADDRESS OF THE PARTY A		
Electric motorcycles				
Brand Model Name Brand Origin	lso UNO-X Italy	Vinfast Klara S Vietnam	Treeletrik T90 Malaysia	Treeletrik T70 Malaysia
Max. Speed _[kmph] Modes	130 Eco, Sport	48	90	65
Motor Power [kW]	5.0	1.2	5.0	1.5
Max. Range at low, constant speed _[km]	150	120	85	100
Battery Type, IP rating	Removable, IP67	Removable, IP67	Fixed	Fixed
Charging Type Fast Charging Time _[h]	Wall Plug 1.5	Wall Plug -	Wall Plug -	Wall Plug -
Trunk Space _[L]	25	<10	-	-
Modularity & Scalability	High	Low	Low	Low
Design Timeline	6 months to new design	-	-	-
Maintenance	Low and easy	Low	Low	Low
Price _[USD]	TBC	1,700	3,600	2,000

VS. PEERS [Thailand]

Electric motorcycles				
Brand Model Name Brand Origin	lso UNO-X Italy	Deco Max One Thailand	Swag Type-x Thailand	Yadea by AJ Z3 Thailand
Max. Speed _[kmph] Modes	130 Eco, Sport	90	65	70
Motor Power [kw]	5.0	2.0	2.02	2.0
Max. Range at low, constant speed _[km]	150	70-90 @45kph	80	120 @ 35kph
Battery Type, IP rating	Removable, IP67	Fixed	Removable- 60V 26AH	Fixed
Charging Type Fast Charging Time _[h]	Wall Plug 1.5	Wall Plug -	Wall Plug -	Wall Plug -
Trunk Space _[L]	25	-	-	-
Modularity & Scalability	High	-	-	-
Design Timeline	6 months to new design	-	-	-
Maintenance	Low and easy	-	-	-
Price _[USD]	TBC	2000	2000	2000

VS. PEERS [Thailand] **Electric** motorcycles **Brand** NIU **Thomas HSEM** Etran Iso EV-02 **Model Name** CIAO N-Series Myra **UNO-X Italy** Thailand Thailand Thailand **Brand Origin** Thailand 60 Max. Speed [kmph] 130 120 80 60 Modes Eco, Sport 2.0 7.0 **Motor Power** [kW] 5.0 1.0 2.4 Max. Range at low, 80 48 250 150 70 constant speed [km] **Battery Type, IP rating** Removable, IP67 Removable Removable-Removable-Removable-**Charging Type** Wall Plug Swapping Wall Plug Wall Plug Wall Plug **Fast Charging Time** [h] 1.5 Trunk Space [1] 25 **Modularity &** High **Scalability** 6 months to new design **Design Timeline** Low and easy **Maintenance** Price [USD] 1500 1900 TBC 1800 3000

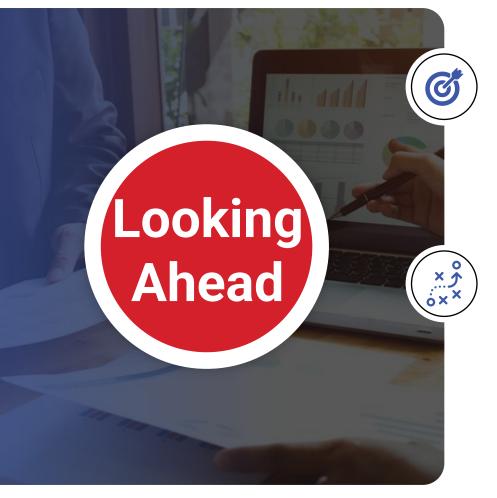
Electric bike under design.

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2021

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Target Milestones

- Launch in Thailand, first target market, by 1Q2022
- Expand to 3 countries across Asia by end of 2022, and 3 continents by end of 2024
- Target sales and production of 20,000 electric motorcycles by 2024
- Launch of 2-3 new models within the next 36 months.

Expansion Strategy

- In talks with **dealers/distributors across 6 markets** for B2C distributorships
- B2B sales- in talks with companies involved in food delivery, motorcycle taxis,
 vehicle rental, and government agencies
- Expansion into white label design and manufacturing
- Licensing of EV technology







FINANCIAL REVIEW

FINANCIAL HIGHLIGHTS FY2021

FINANCIAL HIGHLIGHTS	FY2021	FY2020	Change	Comments
Revenue (S\$m)	117.3	106.4	10.3%	Global demand for electronic components continued to rise
Gross Profit (S\$m)	18.7	18.3	2.3%	
Gross Profit Margin	15.9%	17.2%		Sharp rise in sourcing and procurement costs for components, as well as longer lead times for delivery of raw materials
EBITDA (S\$m)	10.5	11.0	-4.6%	Other income shrank due to reduction in grant support by SG government during COVID-19 pandemic and absence of one-off cost recovery in FY20
EBITDA Margin	9.0%	10.4%		
Net Profit (S\$m)	5.0	5.2	-3.2%	
Net Profit Margin	4.3%	4.9%		
Net Profit To Owners (S\$m)	5.2	5.6	-7.6%	

Contribution From Precision Engineering forms 100% of Revenue in 2021

FINANCIAL HIGHLIGHTS

Looking Forward

Precision Engineering

Cautiously optimistic about the revenue growth for precision engineering driven by

- Higher electronics demand on positive guidance by key customer
- Continued diversification of manufacturing facilities by major MNCs out of China
- Increase in ODM demand

Expects margins to stabilise around current levels

 Group has also increase amount of inventories to mitigate impact of supply chain delay

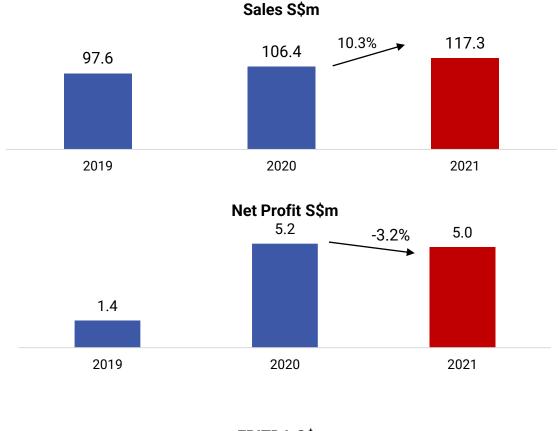
Oil & Gas

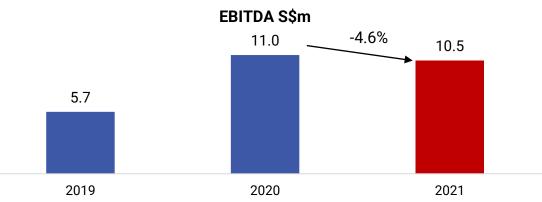
Production expected in 2022

Electric Motorcycle

UNO-X certified fit for sale and road worthy in Thailand

Expects to roll out in Thailand, Bangkok within 2022





st2020 EBITDA excludes other income from jobs support scheme and cost recovery for termination of contract with customers



BALANCE SHEET HIGHLIGHTS FY2021

BALANCE SHEET HIGHLIGHTS	As at 31 Dec 2021	As at 31 Dec 2020	Comments
Cash and cash equivalents (S\$m)	15.7	7.1	
Short-term investments (S\$m)	-	0.6	Interest bearing short-term deposits placed with financial institutions with credit rating of AA to A, for average period of 3 months.
Loan and borrowings (S\$m)	18.5	13.2	Mainly due to invoice financing to bridge the gap between revenues and cash flow
Net Debt* (S\$m)	2.8	5.5	
Net Debt/Equity	4.2%	10.2%	Improved net gearing
Total assets (S\$m)	126.6	103.8	
Total liabilities (S\$m)	61.5	49.8	
Total equity (S\$m)	65.1	54.0	

^{*}Net Debt = Cash & Cash equivalents + short term investments - Loan and borrowings

Completed

Proposed acquisition of Edison Motors for ~S\$7.5m via cash consideration of S\$4m and issuance of 50m new shares at S\$0.07054 per share Proposed issuance of 40.5m new warrants to founders of Edison Motors with exercise price of S\$0.07054

^{*}Financial figures presented has been rounded up to 1 decimal place.

Y-o-y comparison may differ due to rounding figures.





KEY INVESTMENT MERITS

OUR KEY INVESTMENT MERITS

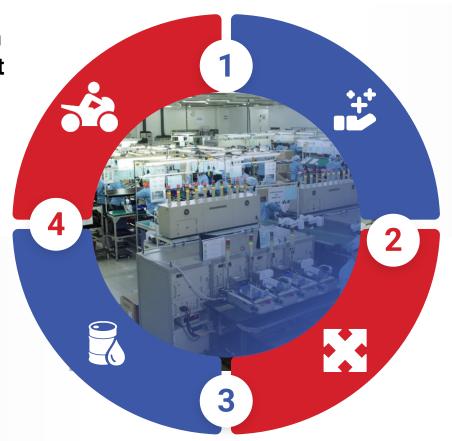
Significant upside potential from Electric Motorcycle Development

Expected revenue contribution from 2022 with production capacity of ~500 electric motorcycles/month

B2B sales and B2C distributorships to drive sales volume going forward

Potential risk free upside from 0&G business from 2022

With no additional contribution to the OPEX or CAPEX, GSS is entitled to the revenue and profit generated from the O&G project once production commences



Precision Engineering to underpin stable profit base

The Group is a top tier supplier to PHILIPS in Asia.

Expected to benefit from the global trend of diversifying manufacturing facilities out of China as well as an expansion in customer base into the defense segment.

Focus on ODM products to further drive sales and margin expansion for Precision Engineering

The Group intends to grow its ODM revenue contribution by 20% by 2023. ODM tends to have higher margins vs OEM by 5 to 10 ppt



For investor and media queries on GSS Energy Ltd



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