



SDEC COMPANY PROFILE

& marine products introduction

Shanghai New Power Automotive Technology Co.,Ltd.

(former:Shanghai Diesel Engine Co.,Ltd.)

2636 JunGong Road, 200438, Shanghai, P.R.CHINA

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SDEC History and Group Structure

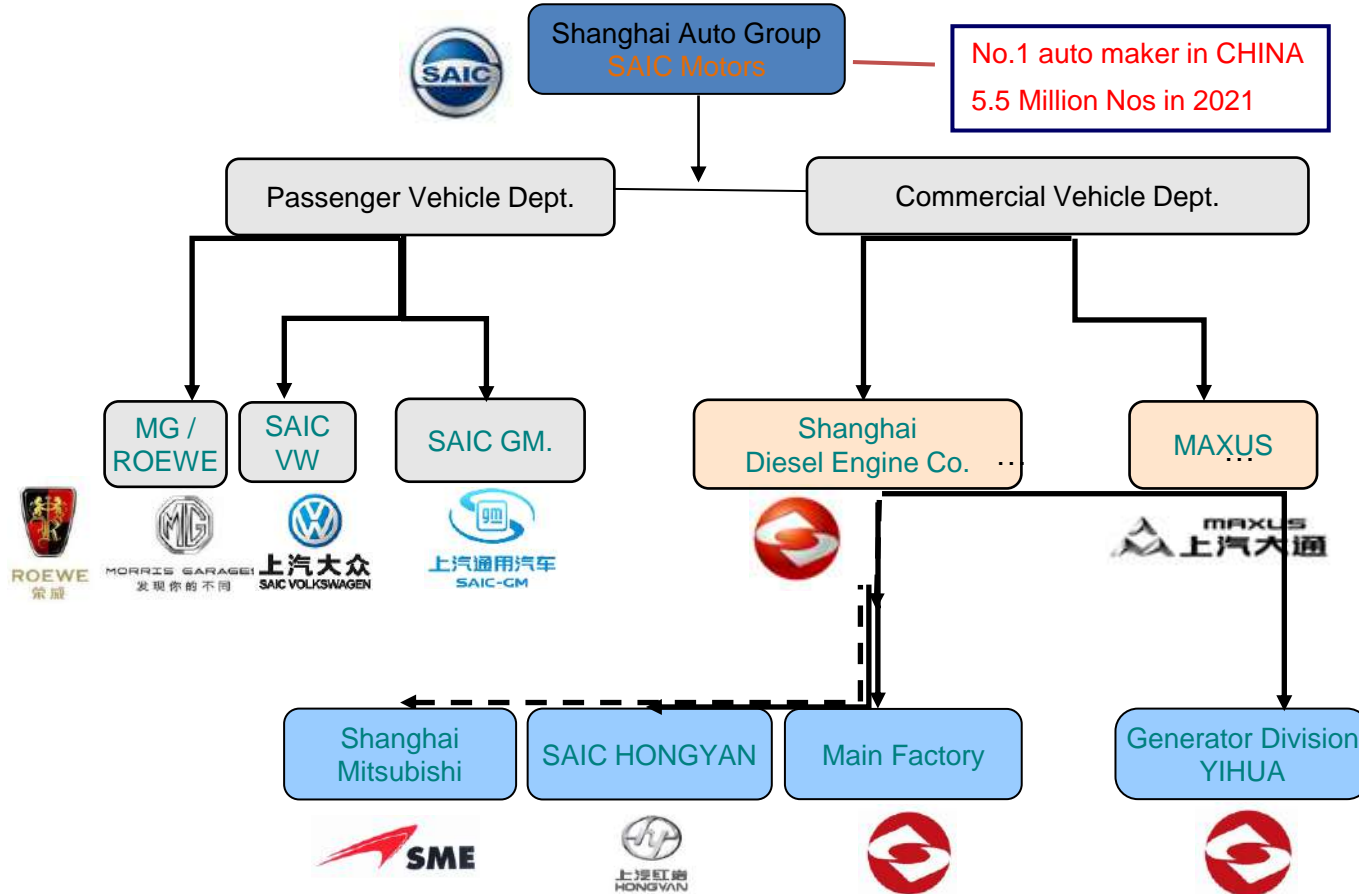
SDEC Group and Introduction

SDEC Products For Marine

SDEC Capability and Infrastructure

SDEC Network & Support

Group Structure



SDEC Milestone



1947年, Wusong Works
吴淞制造厂



1949年, Wusong Machinery Works
吴淞机器厂



1953年, Shanghai Diesel Engine Factory
上海柴油机厂



1993年, Shanghai Diesel Engine Co., Ltd.
改制为股份制公司



2017年, 70-year celebration, No.1.7m engine offline
70周年庆, 第170万台柴油机下线

SDEC Location



➤ **Total Area 600,000 M²/**

➤ **Building Area:310,000 M²/**

SDEC Subsidiaries



SHANGHAI MHI ENGINE CO., LTD. (“SME”)

50:50 JV by SDEC and MHI,
produces SR series engine with
the power range of 500~2000kw.



SHANGHAI DIESEL HAI’AN CO., LTD.(“SDEC-HA”)

SDEC casting subsidiary with the annual capacity of 90,000t



SHANGHAI MHI TURBOCHARGER CO.,LTD.(“SMTC”)

JV by SDEC&MHI&SUMITOMO, produce kinds of turbocharge



SAIC HONGYAN AUTOMOTIVE CO., LTD

Chinese top-list Heavy duty truck manufacture, cooperate with
IVECO,
Produce kinds of heavy duty vehicles



SDEC Main Business and Brand



SDEC

Main business:

1. Diesel & Gas Engine for Commercial vehicles, Construction Machinery, Generator, Marine, Agriculture, (940 Million USD 2021)

2. Heavy duty truck (2.82 billion USD 2021)

3. Generators (60 million USD 2021)

4. Engine Parts (50 Million USD 2021)

Register Brand:

Shanghai Diesel

SDEC

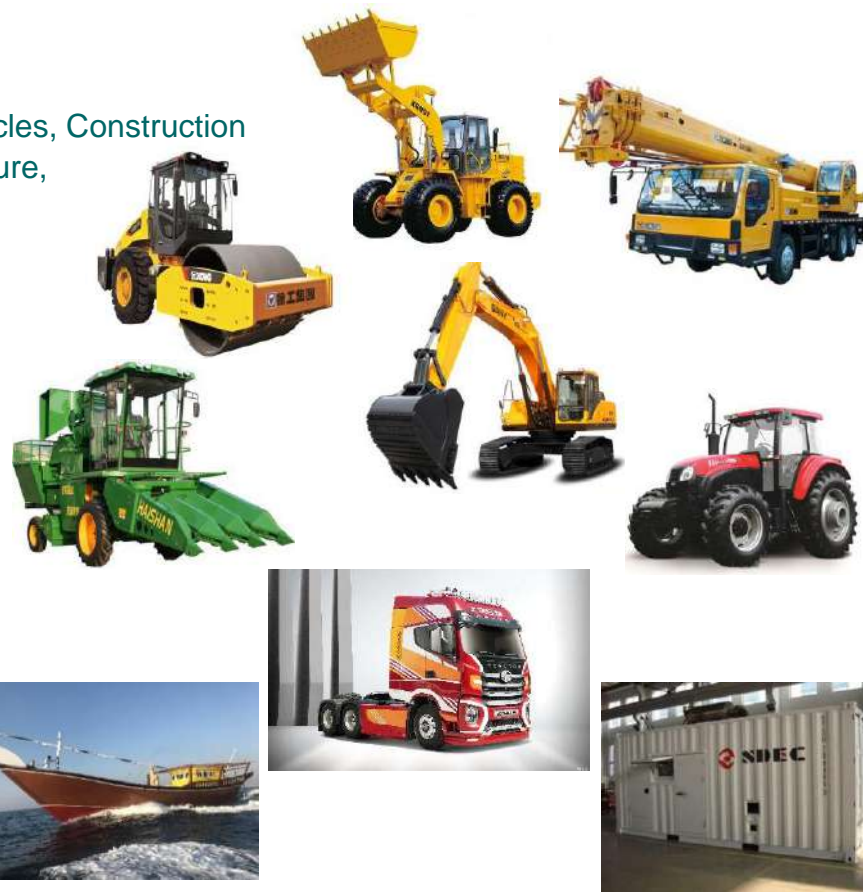
Dong Feng

New business

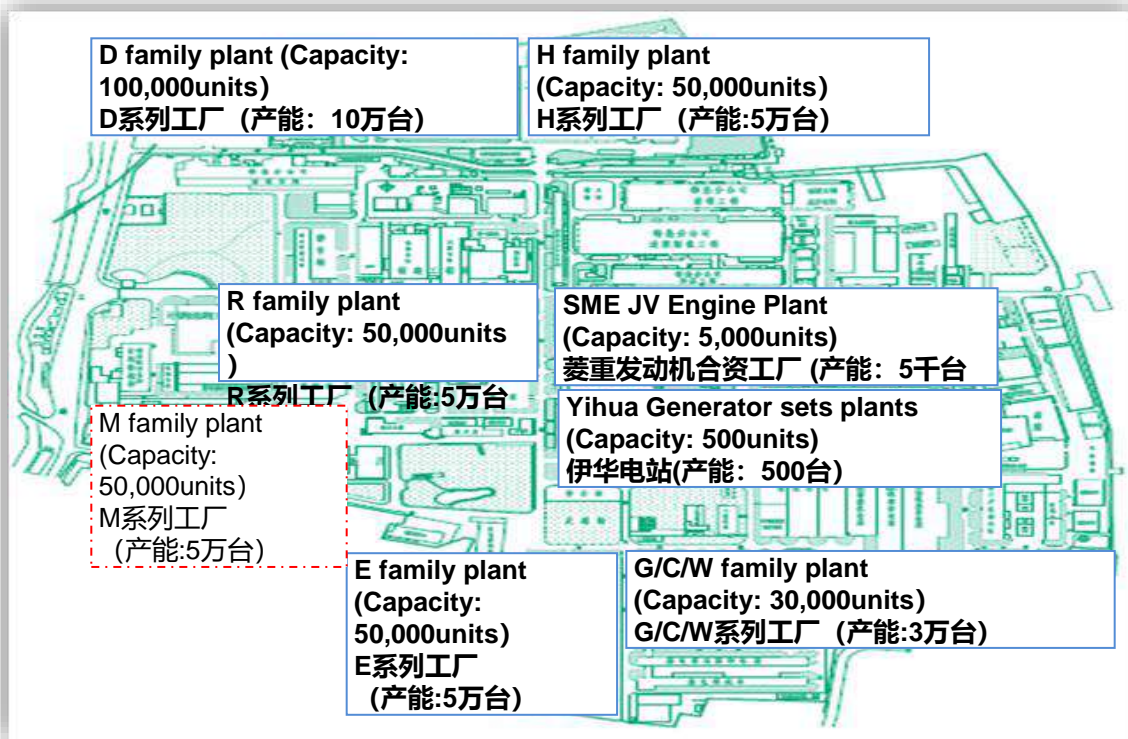
1. Electrical drive axles

2. Hydrogen engine

3. Battery package



SDEC Workshops - NOW










➤ **Focus investment on developing new engine family and improving engine body/head finishing and assembly capacity.**

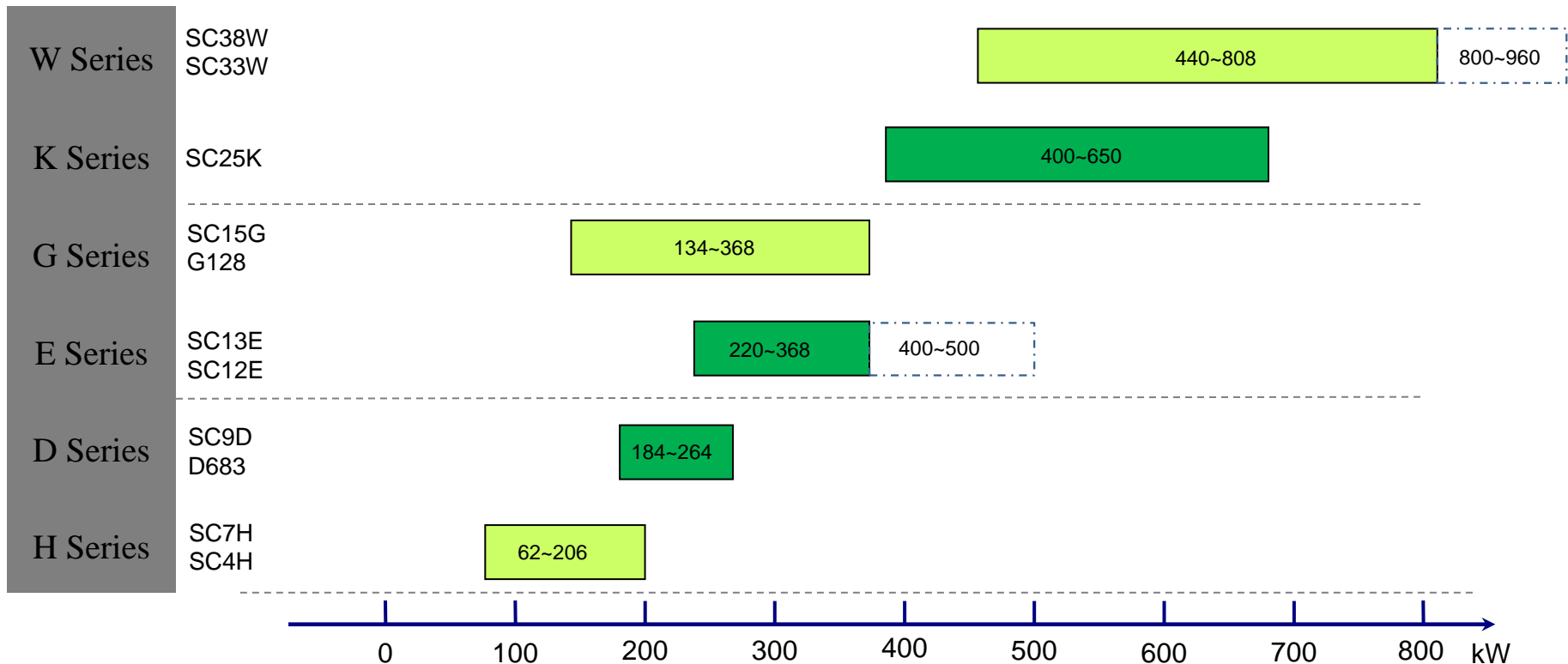
➤ **Convert and divest the high energy consumption business, e.g. heat-treatment, forging, casting, connecting rod, etc.**

SDEC Engine Family and Application



Application	2.5/2.8 L R family	4.3/6.5 L H family	8.3/8.9 L D family	10.4/11.8/12.8L E family	13/15/25/27 L G family	25L K family	33/38 L W family
Generator sets 		50~226kW	146~308kW	255~420kW	187~662kW	460~800kW	660~1120kW
Marine 		100~250hp	180~360hp	500hp	400~500hp	650~800hp	625~1100hp
Tractors & Construction machinery   		60~162kW	105~275kW	213~353kW			
Truck & Bus  	101~143hp	120~280hp	240~375hp	290~500hp			

SDEC MARINE ENGINE POWER RANGE



High Quality Marine Series



Quality



H series

Bench mark Cummins QSB
Joint design with RICADRO,UK



D series

Bench mark Cummins C series
Joint design with SWRI,USA



E series

Bench mark Benz DD13,
Joint design with AVL, Austria

Reliability



K series

Bench mark Cummins QSK23,
Remarkable improvement in design



W series

Refer to Mitsubishi
technology,
Independent development

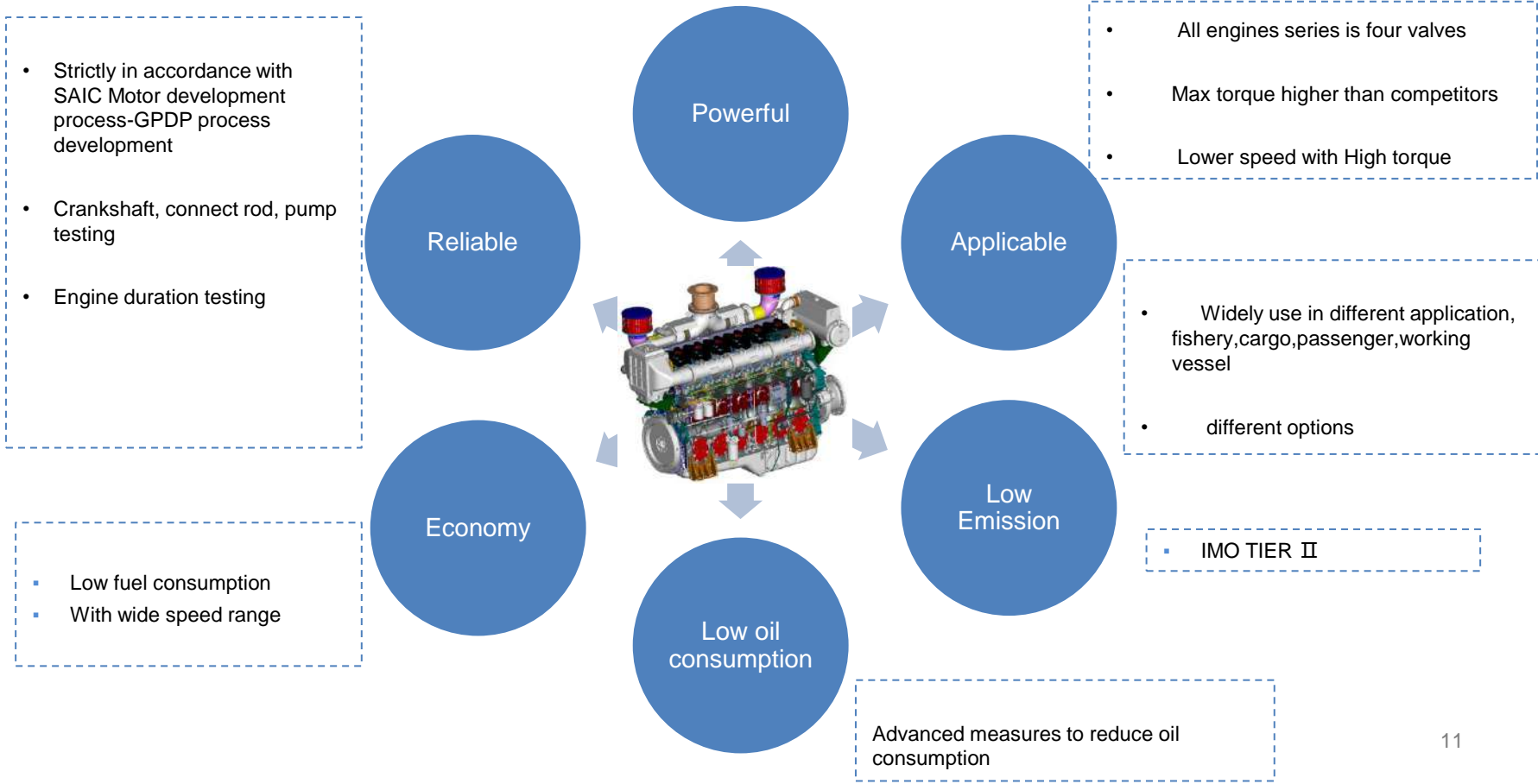


G series

Independent design,
consult with AVL

62 ~882kW (95Hp~1200Hp) Marine propulsion
50~800kW Marine power generator
50~250kW Marine emergency generator

Features of Engine



W SERIES MARINE ENGINE



- W series engine is a new design products to fulfill the requirements of high power marine application
- Refer to Mitsubishi technology and standard



Power Range (440-808kW)

■ Feature

- Gantry block
- Dual-Turbo
- Four valves
- One cylinder one head

W series Marine Engine



➤ W series parameter

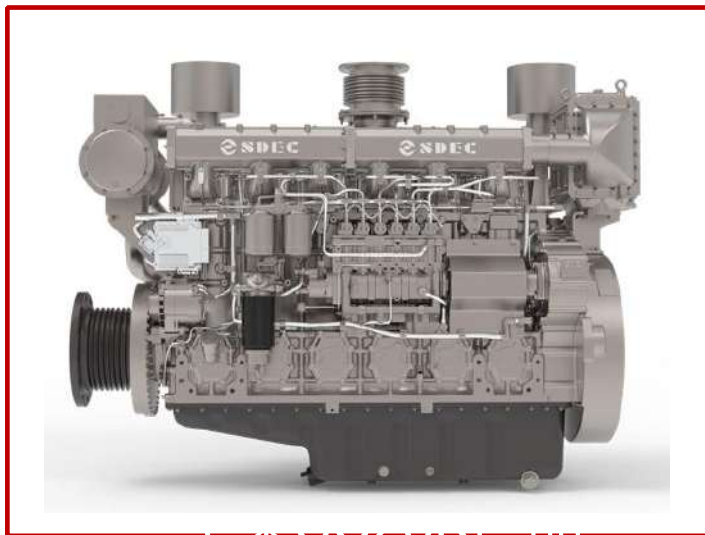
✓	Model	SC33W	SC38W
✓	Cyl No.	6	6
✓	Valves/Cyl	4	4
✓	Bore×stroke	180x215	180x250
✓	Disp (L)	33	38
✓	Fuel system	Mechanical	Electrical
✓	Output interface	SAE 0#/18'	—/18'
✓	Power	440~808kW	440~735kW
✓	Marine Genset power	400~600kW (four-pole)	500~600kW (six-pole)
✓	Cert	IMO Tier II	IMO Tier II



K SERIES MARINE ENGINE



- SC25K series marine diesel engine is a new generation, which is self-developed with advanced technology and 70years R&D experience, bench mark Cummins QSK23



Power range(400-650KW)

- **Feature**
 - Four valves
 - Gantry block/wet liner
 - Electrical control pump (ECU/EUP)
 - Integral crankshaft
 - Dual-Turbo

K series Marine Engine



➤W series parameter

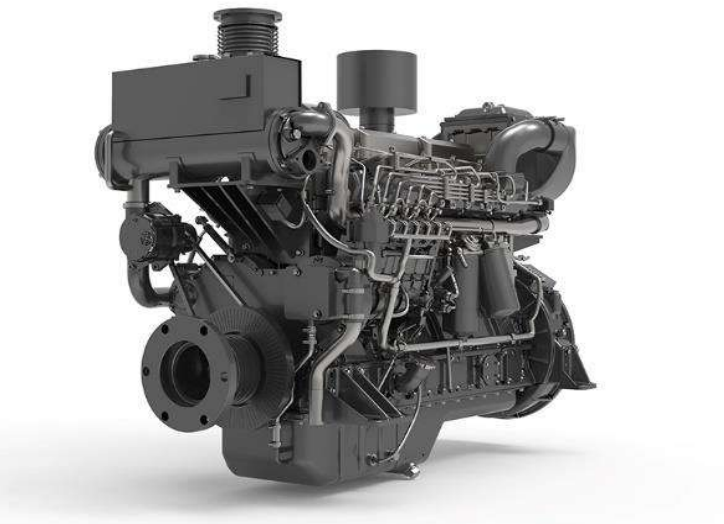
✓	Model	SC25K	SC25K
✓	Cyl No.	6	6
✓	Valves/Cyl	4	4
✓	Bore×stroke	170x185	170x185
✓	Disp (L)	25	25
✓	Fuel system	Electrical (CR)	Electrical (EUP)
✓	Output interface	SAE 0#/18#	SAE 0#/18#
✓	Power	500~880ps	500~800ps
✓	Marine Genset power	500~600kW (four-pole)	350~500kW (four-pole)
✓	Cert	IMO Tier II	IMO Tier II



G SERIES MARINE ENGINE



❓ G series marine engine is a improved model joint design with Austria AVL for more than two years. After the launch in market, it has been accept by users with high quality and high reliability.



Power range(184-368KW)

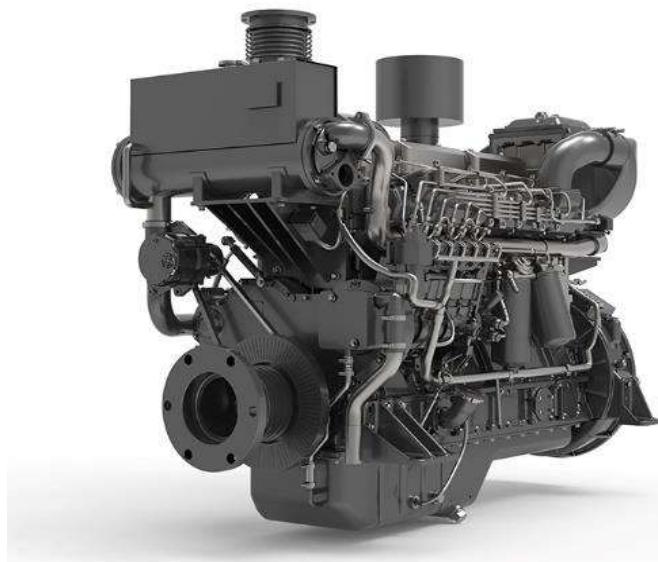
- Strengthen block
- Optimized burning system
- Efficiency turbo
- Integral crankshaft

G series Marine Engine



➤G series parameter

✓	Model	G128	SC15G
✓	Cyl No.	6	6
✓	Valves/Cyl	4	4
✓	Bore×stroke	135x150	135x165
✓	Disp (L)	12.88	14.2
✓	Fuel system	Mechanical	Mechanical/ECU
✓	Output interface	SAE 1#/14#	SAE 1#/14#
✓	Power	184~280kW	280~338/ 220~368kW
✓	Marine Genset power	150~250kW	250~300/ 200~320kW
✓	Cert	IMO Tier II	IMO Tier II

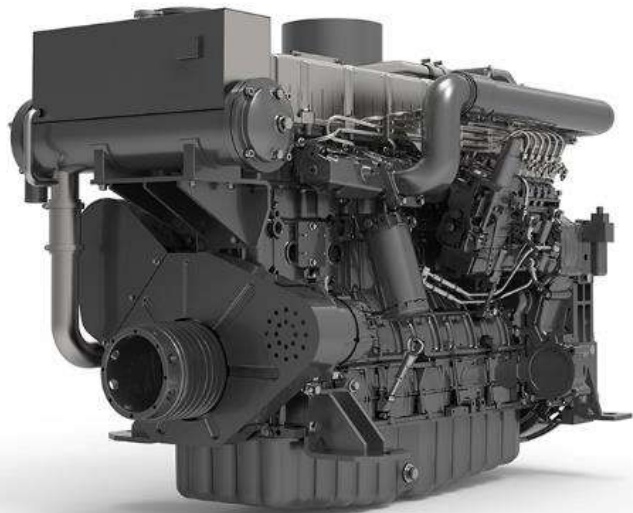


E SERIES MARINE ENGINE



☐ Referring to the European heavy truck engine (Benz dd13), according to the requirements of marine use, and entrust AVL to develop;

Power range(220-368KW)



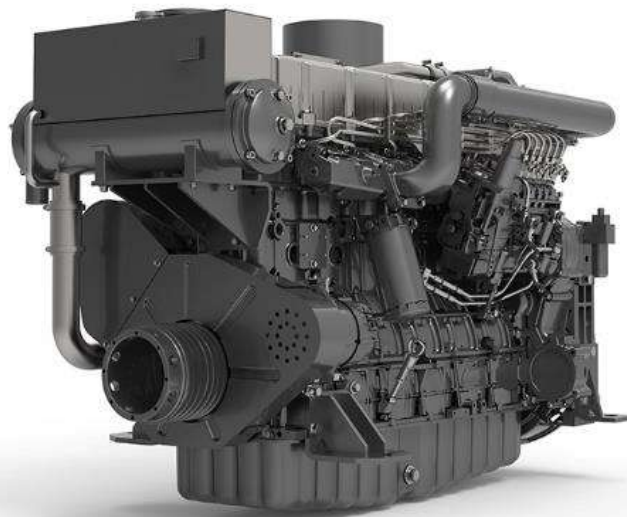
- **Features**
 - Compact design
 - Four valves per cylinder
 - Integral cylinder head
 - Wet liner

E series Marine Engine



➤E series parameter

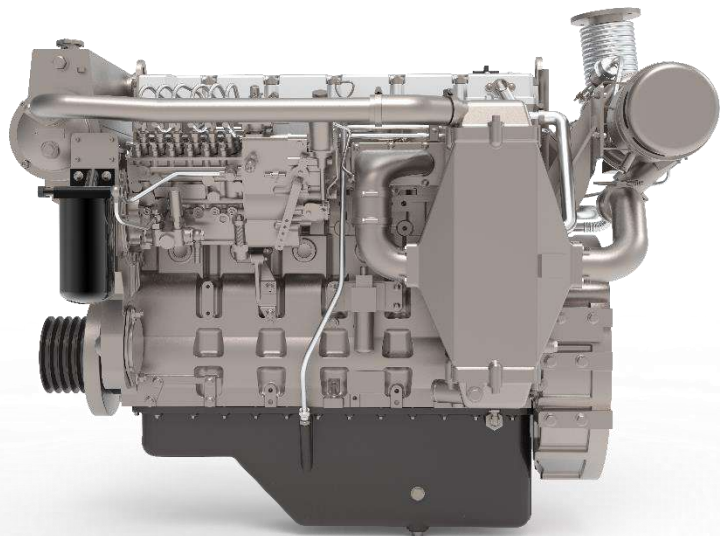
✓	Model	SC12E	SC13E
✓	Cyl No.	6	6
✓	Valves/Cyl	4	4
✓	Bore×stroke	128×153	130×161
✓	Disp (L)	11.8	12.8
✓	Output interface	SAE 1#/14'	SAE 1#/14'
✓	Power	220-340kW	317-368kW
✓	Marine Genset power	200-280KW	/
✓	Cert	CCS/IMO	/



D SERIES MARINE ENGINE



 Joint design with AVL, bench mark Cummins ISL8.9



Power range (184-264kW)

- **Features**

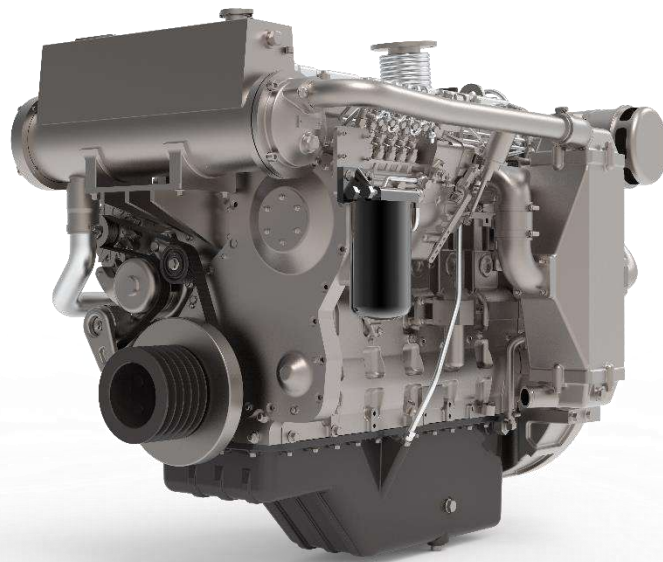
- Compact design & light weight
- Four valves per cylinder
- High speed
- Wet liner

D series Marine Engine



➤D series parameter

✓	Model	D683	SC9D
✓	Cyl No.	6	6
✓	Valves/Cyl	4	4
✓	Bore×stroke	114×135	114x144
✓	Disp (L)	8.3	8.8
✓	Fuel system	Mechanical	Mechanical/ECU
✓	Output interface	SAE 2#/11.5'	SAE 1#/14#
✓	Power	184-264kW	184~264kW
✓	Marine Genset power	/	120~220kW
✓	Cert	CCS/IMO	CCS/IMO



H SERIES MARINE ENGINE



■ H series is bench mark Cummins QSB model, joint developed with Ricardo UK.



Power range (62-184kW)

● Features

- Compact design
- Four valves per cylinder
- Integral cylinder head
- Wet liner

H series Marine Engine



➤H series parameter

✓	Model	SC4H	SC7H
✓	Cyl No.	4	6
✓	Valves/Cyl	4	4
✓	Bore×stroke	105x124	105x124
✓	Disp (L)	4.3	6.5
✓	Fuel system	Mechanical	Mechanical
✓	Output interface	SAE 1#/14'	SAE 1#/14'
✓	Power	62~120kW	103~184kW
✓	Marine Genset	50~100kW	90~150kW
✓	Cert	CCS/IMO	CCS/IMO



SDEC MARINE ENGINE APPLICATION



Application Reference



Model	Disp	Power/speed	Recommend application
4H	4.3L	62~120kW/1500~1800rpm	Coastal Small fishery vessel Coastal Fishery auxiliary vessel Ferry/yacht/passenger vessel Marine power generator
7H	6.5L	103~184kW/1500~2300rpm	Coastal fishery vessel Coastal Fishery auxiliary vessel Ferry/yacht/passenger vessel Small Cargo vessel/Offshore working craft Marine power generator
D	8.3/8.8L	184~264kW/1500~2300rpm	Offshore fishery vessel Ferry/yacht/passenger vessel Cargo vessel/Offshore working craft
G	12.88/14.2L	184~368kW/1500~1800rpm	Offshore fishery vessel Ferry/passenger vessel Cargo vessel/Offshore working craft Marine power generator
E	11.8L/12.8L	220~368kW/1500~2100rpm	Offshore fishery vessel Ferry/Passenger vessel Cargo vessel/Offshore working craft
K	25L	400~600kW/1500~1800rpm	Offshore fishery vessel Cargo vessel
W	33/38L	440~735kW/1200~1500rpm	Offshore fishery vessel Cargo vessel Marine power generator



H



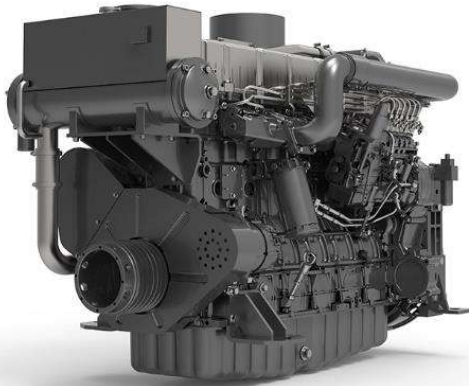


D



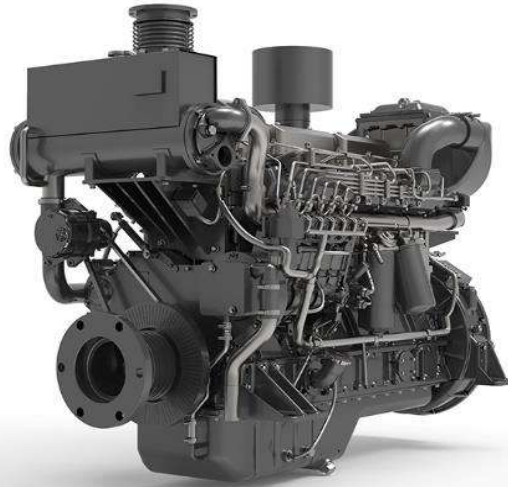


E

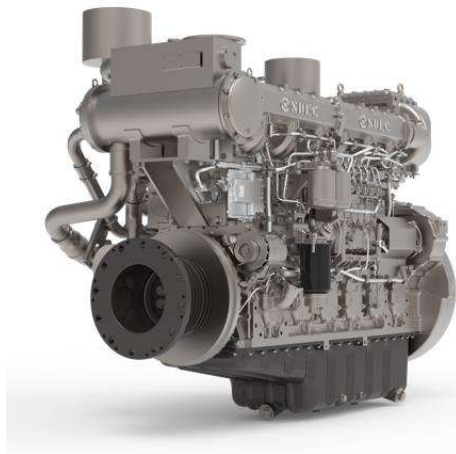




G

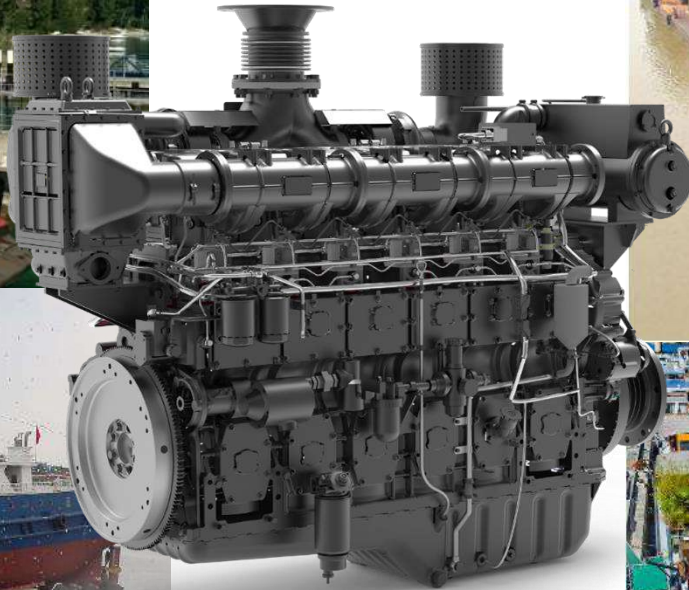


K





W



CASE 1



船舶用途Application	southeast Asia island tourism
船舶吨位Tons (T)	300
船长*船宽*型深vessel L*W*D (m)	33.5*11*1.5
工作航速work speed (Kt) /柴油机转速engine speed (rpm)	10 knot@1060rpm
船舶主机型号*主机数量engine*Nos	SC33W680CA2, x 2 units
功率*转速power/rpm	490kw@1350rpm
齿轮箱型号*速比gear ratio	NICO, 4: 1
试航日期trial date	2019 April



CASE 2



船舶用途Application	Singapore passenger vessel
船舶吨位Tons (T)	16
船长*船宽*型深vessel L*W*D (m)	15*4*1.5
工作航速work speed (Kt) /柴油机转速engine speed (rpm)	16 knot@1700RPM
船舶主机型号*主机数量engine*Nos	SC12E460.21CA1, 1台
功率*转速power/rpm	340kW@2100rpm
齿轮箱型号*速比gear ratio	NICO, 2: 1
试航日期trial date	2019 June



CASE 3



船舶用途Application	Singapore passenger vessel
船舶吨位Tons (T)	16
船长*船宽*型深vessel L*W*D (m)	14*4*1.5
工作航速work speed (Kt) /柴油机转速engine speed (rpm)	20 knot@2000RPM
船舶主机型号*主机数量engine*Nos	D683ZLCA9B, 2 units
功率*转速power/rpm	259kW@2430RPM
齿轮箱型号*速比gear ratio	MV100A, 2: 1
试航日期trial date	2019 June



CASE 4



船舶用途Application	India trawler
船舶吨位Tons (T)	40
船长*船宽*型深vessel L*W*D (m)	25*7*3
工作航速work speed (Kt) /柴油机转速engine speed (rpm)	5 knot@1000RPM
船舶主机型号*主机数量engine*Nos	SC15G500.1CA2, 1 unit
功率*转速power/rpm	330kW@1800RPM
齿轮箱型号*速比gear ratio	FD135, 4: 1
试航日期trial date	2017 June



CASE 5



船舶用途Application	UAE Fishery
船舶吨位Tons (T)	30
船长*船宽*型深vessel L*W*D (m)	21*6*2.5
工作航速work speed (Kt) /柴油机转速engine speed (rpm)	7 knot@1000RPM
船舶主机型号*主机数量engine*Nos	SC12E460.21CA1, 1 unit
功率*转速power/rpm	340kW@2100RPM
齿轮箱型号*速比gear ratio	DMT 280H, 4: 1
试航日期trial date	2020 March



CASE 6



船舶用途Application	Vietnam Cargo ship
船舶吨位Tons (T)	2000
船长*船宽*型深vessel L*W*D (m)	120*30*4
工作航速work speed (Kt) /柴油机转速engine speed (rpm)	8 knot@1000RPM
船舶主机型号*主机数量engine*Nos	SC33W765CA2, 1 unit
功率*转速power/rpm	561kW@1500RPM
齿轮箱型号*速比gear ratio	FADA J600A, 3.5: 1
试航日期trial date	2020 June

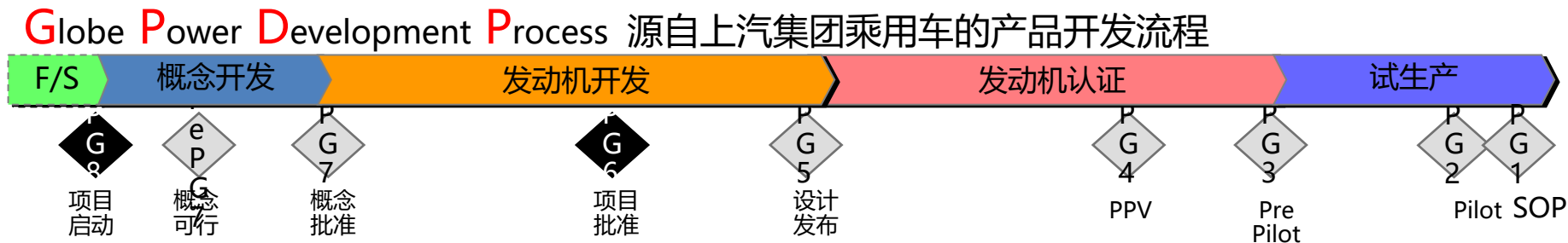




SDEC R&D ability and management

30 GPDP流程包含规划、技术、制造、质量、财务、市场等各类子流程近30项。

Developing Engine base on passenger car production philosophy



1st 首批国家级企业技术中心。 **3+2** 3个研发基地（零部件、中试、理化），2个试验车间。

R&D Ability



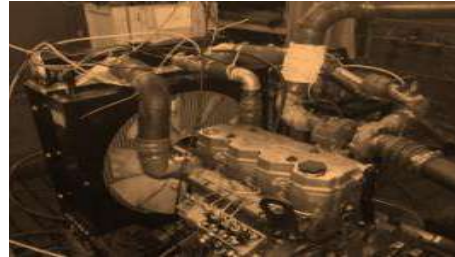
The earliest Euro-level enterprise technical center, undertaking several national program



21 no.s R&D benches on power, noise, emission, etc.



4000m Altitude testing



50°C Heat balance



-40°C Cold start

SDEC Production machines



Auto glue Robot by KUKA Germany



Full time data uplink system



Cylinder machine by MAKINO Japan



Block Machine by HELLER Germany



Torque Robot by Atlas Sweden

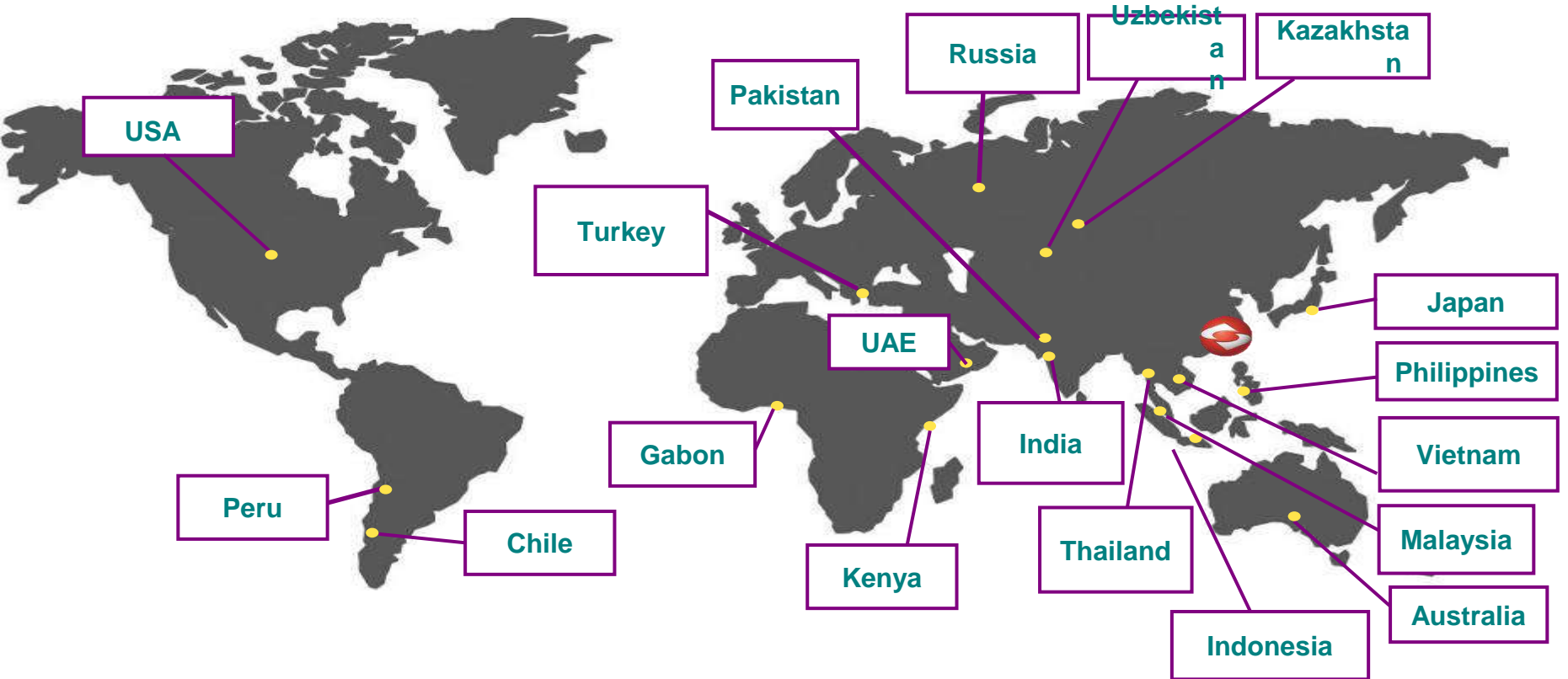
SDEC Quality and products certificates



- 2000: ISO9001:2000 certificate
- 2002: QS9000 certificate
- 2005: ISO TS16949 certificate
- 2006: CE Certificate
- CCS APPROVAL
- NK APPROVAL
- TL RRR APPROVAL
-



Global Sales and Service Network





海外服务网络平台 Oversea service net platform

Standard platform

1. CRM
2. Parts system TIS
3. Parts stock
4. remote diagnosis
5. Service manual
6. Training
7. Service authorization



上汽动力 IS6
GLOBAL SERVICE ORDER EVALUATION CHECK LIST

NO.	DESCRIPTION	YES	NO	NO. OF YES	NO. OF NO
1	Customer name				
2	Engine				
3	Customer of order (Name and fax)				
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Training Center



Combining theory and Practice!

THANK YOU!

SDEC High quality, **D**iverse range of **E**ngines

