Doosan Engine

Investor Relations

2014.1Q Operating Results

April 2014
Doosan Engine

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Disclaimer

This presentation contains preliminary figures which may be materially different from the final figures.

While the statement in this presentation represent our current assumptions, plans and expectations, and we believe these judgments are reasonable, they are not guarantees of future performance and involve known and unknown risks, uncertainties such as FX & raw material costs, and other factors that may cause actual results to differ materially from the results, performance, achievements or financial position expressed or implied in this presentation.

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1Q14 Income Statement

✓ Sales W165bn, Operating Loss W-19bn(OPM -11.6%)

(Wbn)

	'14.1Q	'13.4Q	QoQ	'13.4Q	YoY
Sales	165 ①	144	+14.6%	214	22.9%
COGS ratio(%)	(105.4%)	(90.9%)	(+14.5%p)	(91.9%)	(+13.5%p)
Gross Profit	-9	13		17	
SG&A	10	13		11	
Operating Profit	-19	0.1	TR	6	TR
OP Margin(%)	(-11.6%) ②	(-4.3%)	(-11.7%p)	(+2.8%)	(-14.4%p)
Other gain & loss	-0.4	-4		-2	
Financial income &expense	-1.2 ③	-0.5		0.8	
Equity Method gain & loss	-3 ④	8		-6	
Pretax Profit	-24	5	TR	-1	CR
Tax	-5	2		0.9	
Net Profit	-19	3	TR	-2	CR

1Q Main Points (QoQ)

① Sales +14.6%(QoQ)

- Sales improved due to the increase in engine deliveries

② OP Margin -11.6% (Turned Red)

- Deteriorated product mix
  (COGS ratio '13.4Q : 90.9% → '14.1Q : 105.4%)

③ 1Q Financial Income/Expense –W1bn

- Interest income & expense –W1.9bn
- FX translation gain & loss –W0.1bn
- Forward hedging gain & loss +W0.6bn

④ Gain/Loss on Equity Method –W3n

- Equity method gain +W4bn
- Equity method loss –W7bn

Balance Sheet

✓ Net Debt W156bn, Liability Ratio 122%

(Wbn)

	'13.12	'14.03	+/-	
Current assets	489	554	①	+65
Non-current assets	1,173	1,170		-3
Total assets	1,662	1,724		+62
Current Liabilities	538	674		+136
Advance receipts	325.7	325.2		-0.5
Non-current liabilities	334	274		-60
Total liabilities	873	948	②	+75
Paid in capital	69.5	69.5		0
Capital Surplus	367	367		0
Retained earnings	348	329		-19
Accumulated other comprehensive income	4	9		+5
Total equities	790	776	③	-14
Total debt	312	329		+17
Cash & Cash Equivalents	188	173		-15
Net Debt	+124	+156	④	+32
Liability ratio	110%	122%		+12%p

Key Points

① Current assets +W65bn
- Account receivable jumped from the increase number of engine shipments +W42bn
- Increase of work in process led to inventory rise +W57

② Total liabilities +W75bn
- Account payable increased +W76bn

③ Total equities –W14bn
- Net loss -W19bn

④ Net debt +W32bn
- Cash & cash equivalents dropped W14bn due to increase in working capital
- L/C Nego debt increased +W15bn

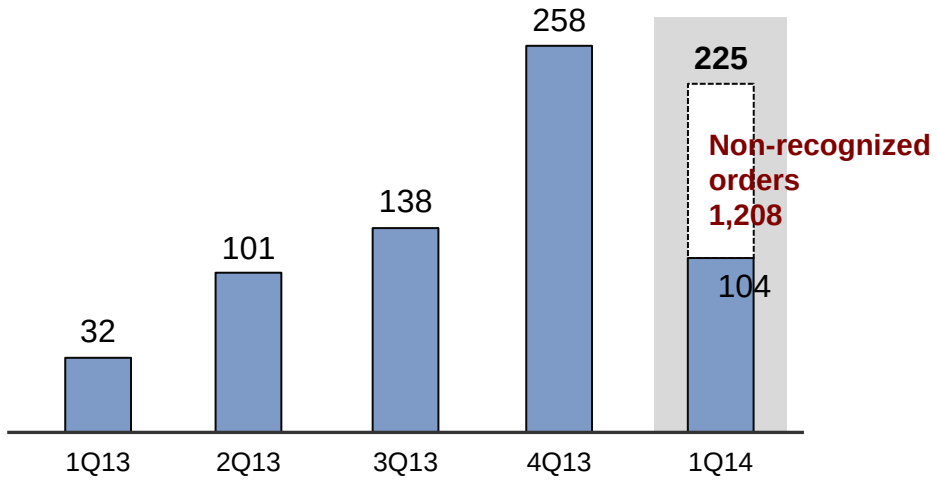
Quarterly New Orders Trend

✓ **1Q New Orders : W104bn(Including the non-recognized orders the actual new orders reached W225bn)**

✓ **New orders showing a sign of improvement every quarter due to recovery in the commercial vessel market**

Quarterly New Orders Trend

(Wbn)

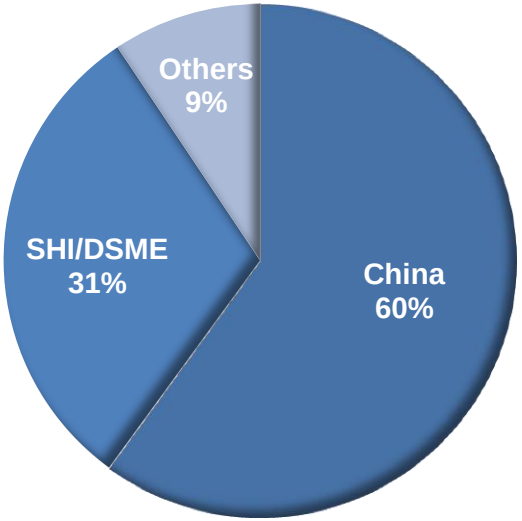


	1Q13	2Q13	3Q13	4Q13	**1Q14**
low speed	19	79	93	161	**90**
Med speed	4	13	38	90	**4**
Others	9	9	7	7	**10**
Total	32	101	138	258	**104**

* New orders based on receiving advance receipts

New Orders by Customers

Marine Engine(W94bn)

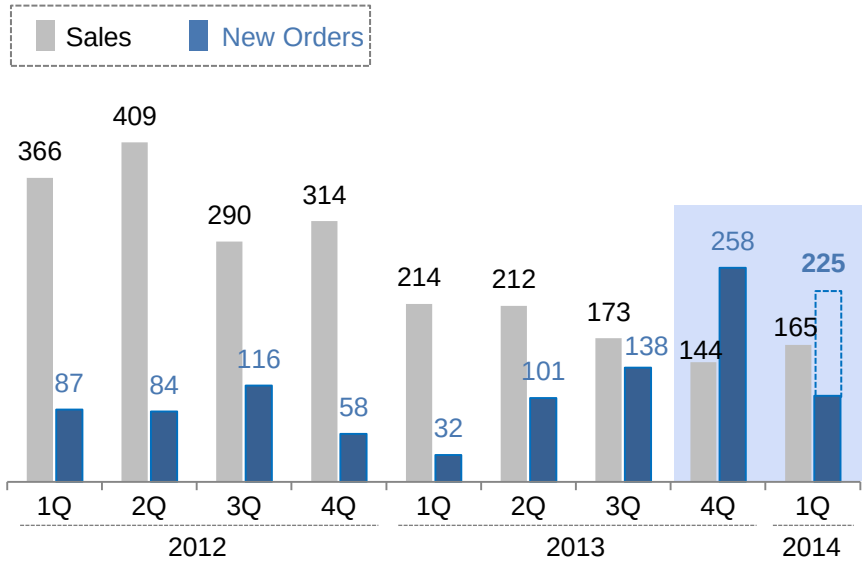


Quarterly Earnings Trend

✓ **New orders exceeded sales since 4Q13 thanks to recovery in shipbuilding industry and our earnings will gradually improve**

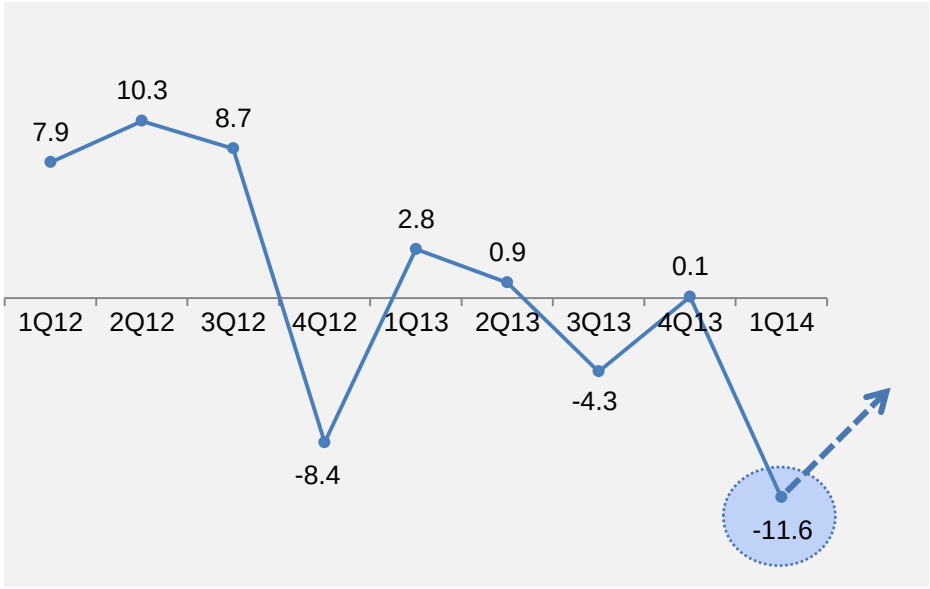
Quarterly Sales & New Orders Trend

(Wbn)



Quarterly Operating Margin Trend

(%)



Order backlog

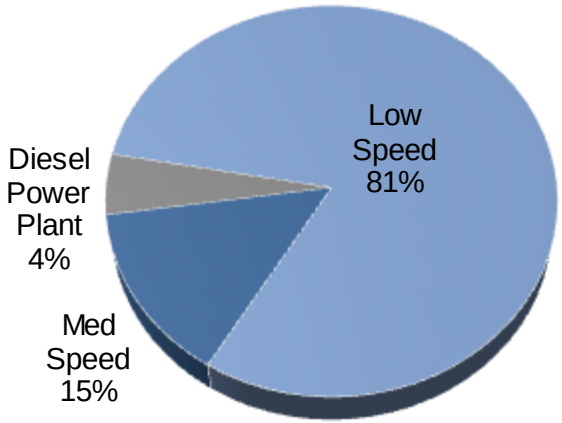
✓ **Order backlog : W2.1tr, marine engine accounts 96%**

Order Backlog Breakdown

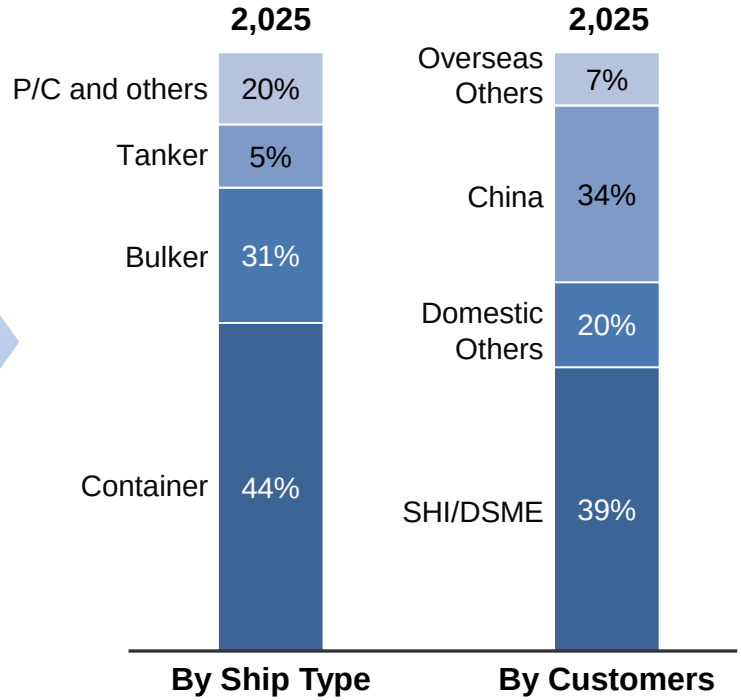
(Wbn, %)

W2,108

(as of March 2014)



Marine engine (low speed+ med speed) : W2,025bn



※ Backlog : Recognized upon contract sign basis
(Reflection of cancellation and order changes)

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Mid to Long-Term Growth Strategy

✓ **Implementing a diverse business portfolio by strengthening diesel power plant and focusing on expansion into non-shipbuilding business**

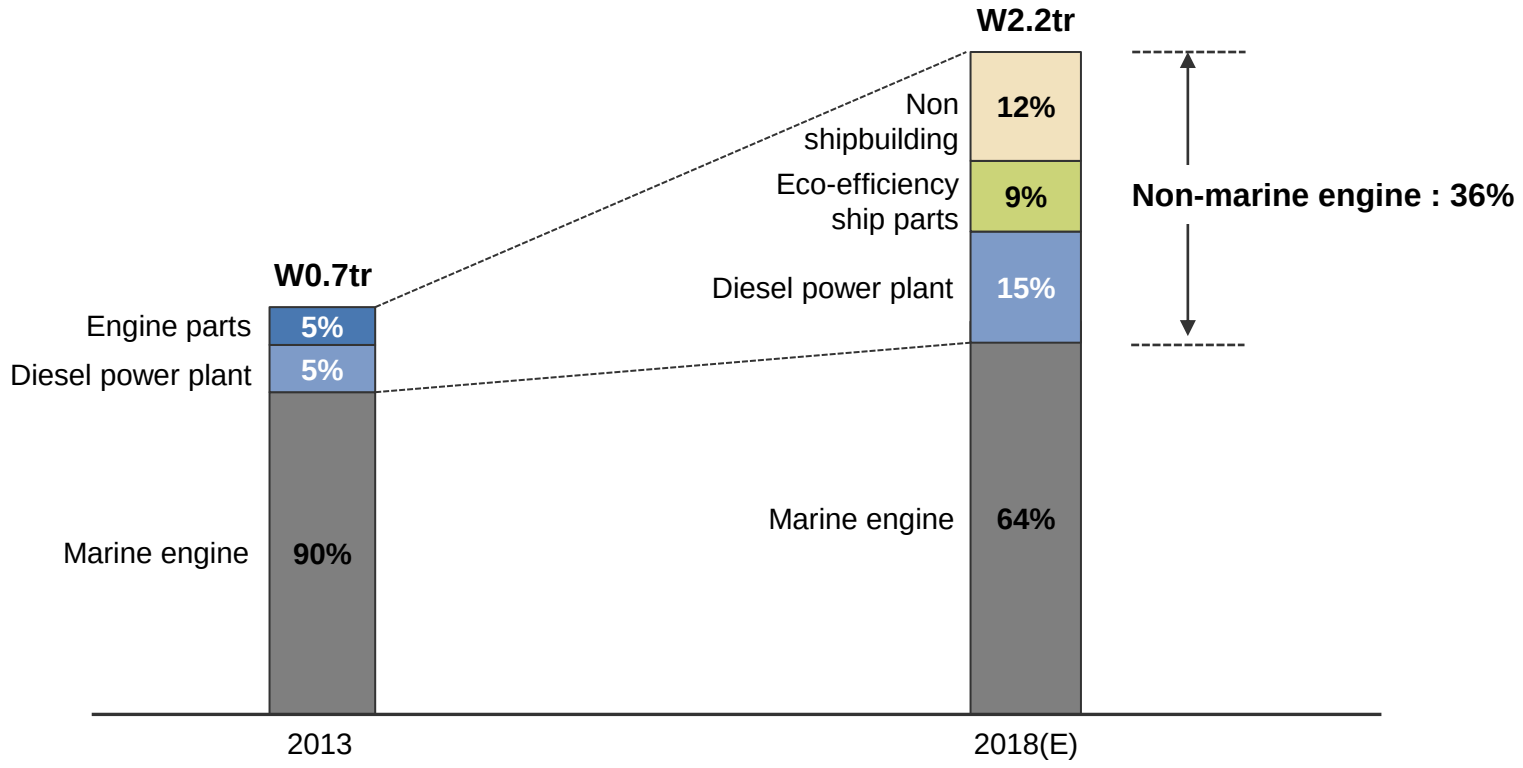
✓ **To strengthen marine engine business by securing profitability in new orders and cost competitiveness**

Strategy	'14 Key Strategy	Main Issues
1 Stable Business Portfolio	• Strengthening diesel power plant business	• Expanding new order pool by focusing on target markets • Implementing EPC based system engineering
	• Building a diversified portfolio by expanding into non-shipbuilding business	• Gradual expansion into offshore equipment part business • Successfully launching its SCR business
2 Strengthen Engine Business Competitiveness	• Strengthening marine engine business	• Focus on securing profitability in new orders • Securing cost competitiveness

Mid to Long-Term Vision

✓ **Focusing on non-marine engine areas to achieve W2.2tr sales by 2018**

Mid to long-term Financial Aspiration – Sales



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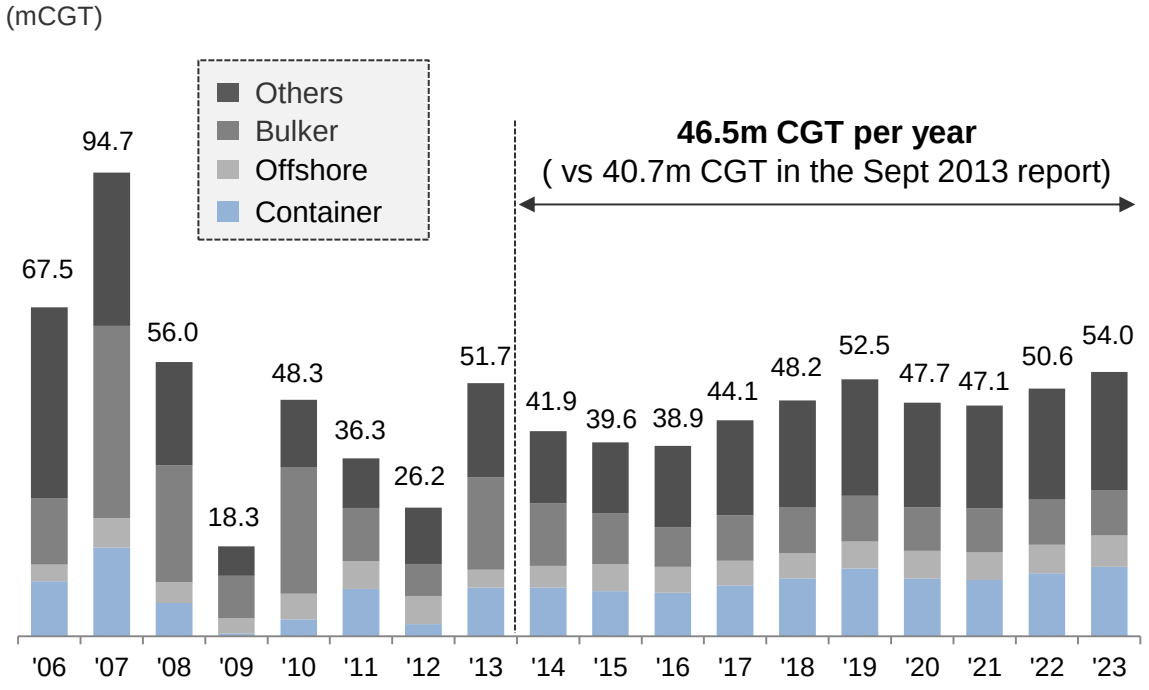
Shipbuilding market outlook

✓ **The global new orders amount rebounded from 2013 and will likely to maintain an annual average of 41mCGT level in the mid to long term**

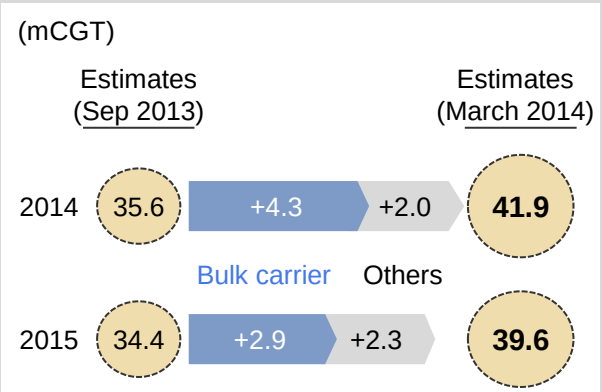
Global new orders outlook



※ Source : Clarkson Forecast Report (’14.3)

Escalation of Clarkson forecast

- The March 2014 report has higher estimates of 18%,15% for new orders outlook in 2014~2015 than the Sept. 2013 report
  - Outlook for bulk carrier is higher than other vessels



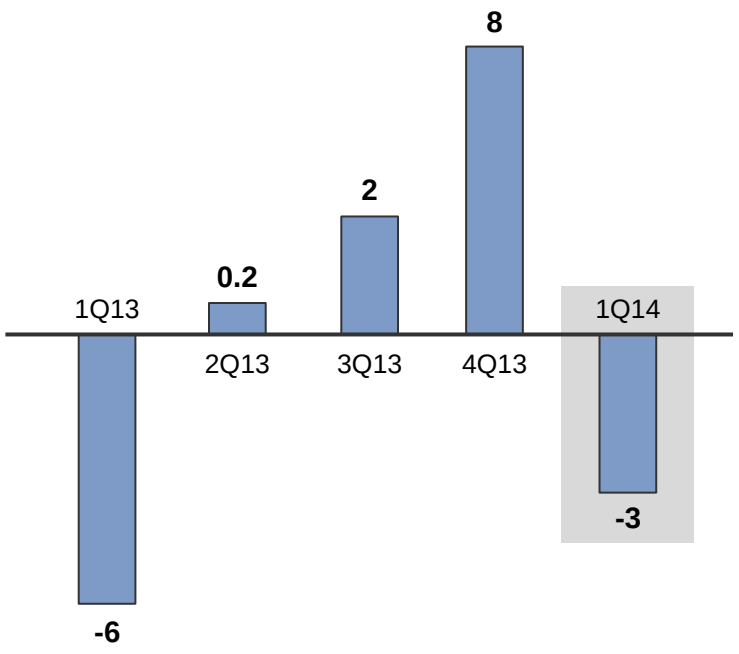
Investment Points 1. Bobcat Earnings

✓ **1Q14 Gain(Loss)on equity method of Bobcat : -W3bn(Equity method gain W4bn, Equity method loss-W7bn)**

✓ **Bobcat solid earnings led to improvement in our 1Q14 gain(loss)on equity method**

Bobcat equity method gain trend

(Wbn)



Bobcat stake & book value

(Wbn, %)

	1Q13	1Q14	YoY
Stake(%)	15.5%	**15.5%**	
Acquisition Cost	738	**738**	
Book Value	452	**457**	
DII	270	**289**	
DHEL	182	**168**	
Gain(Loss)on Equity Method of Bobcat	-6	**-3**	CR
DII	2	**4**	+30.8%
DHEL	-8	**-7**	CR

NOx (Nitrogen oxides) regulation

Global as Tier II | after Jan. 2011	**ECA as Tier III** | after Jan. 2016
Under **14.4 g/kWh**	Under **3.4 g/kWh**

Emission Control Areas (MEPC 66th)

1)MEPC 66th decided to keep the implementation date of the NOx Tier III requirements as 1 January 2016. (North American and US Caribbean Sea)

For any future new ECA, the Tier III requirement will be made mandatory for ships constructed on or after the announcement of the establishment of the ECA, or any date decided by the parties proposing the ECA but not earlier than the announcement date.

North American ECAs(NOx, SOx, PM) **Baltic & North Sea ECAs(SOx)**
Discussed ECAs

1) MEPC(Marine Environment Protection Committee)

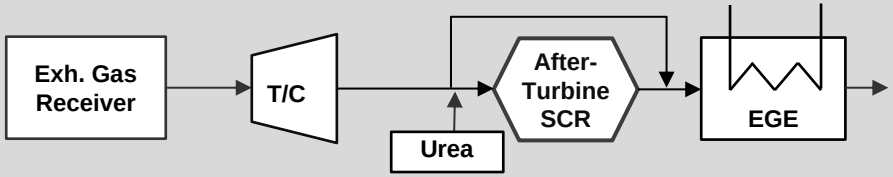
Investment Points 2. SCR

▪ After-turbine SCR

- NOx reduction method using catalyst and reactant (urea)
- High NOx reduction efficiency (≥80%)
- Consists of reactor, urea dosing system and control system
- Proven technology for IMO Tier III

"Most effective and proven solution"

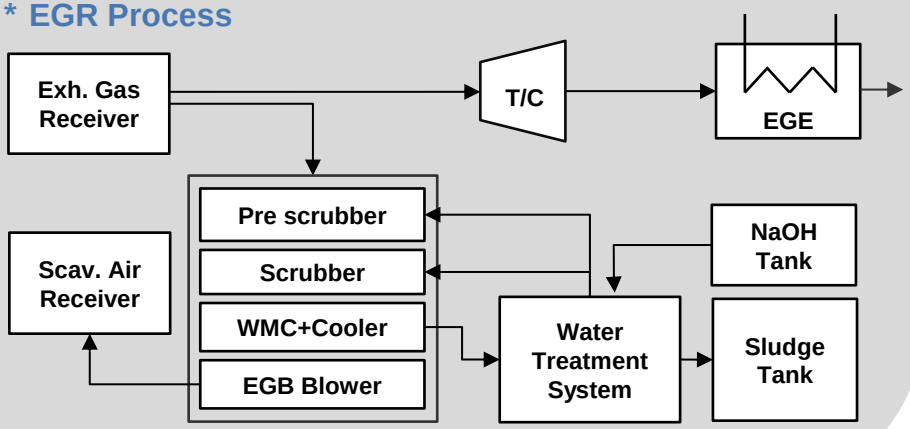
* DeINOx Process



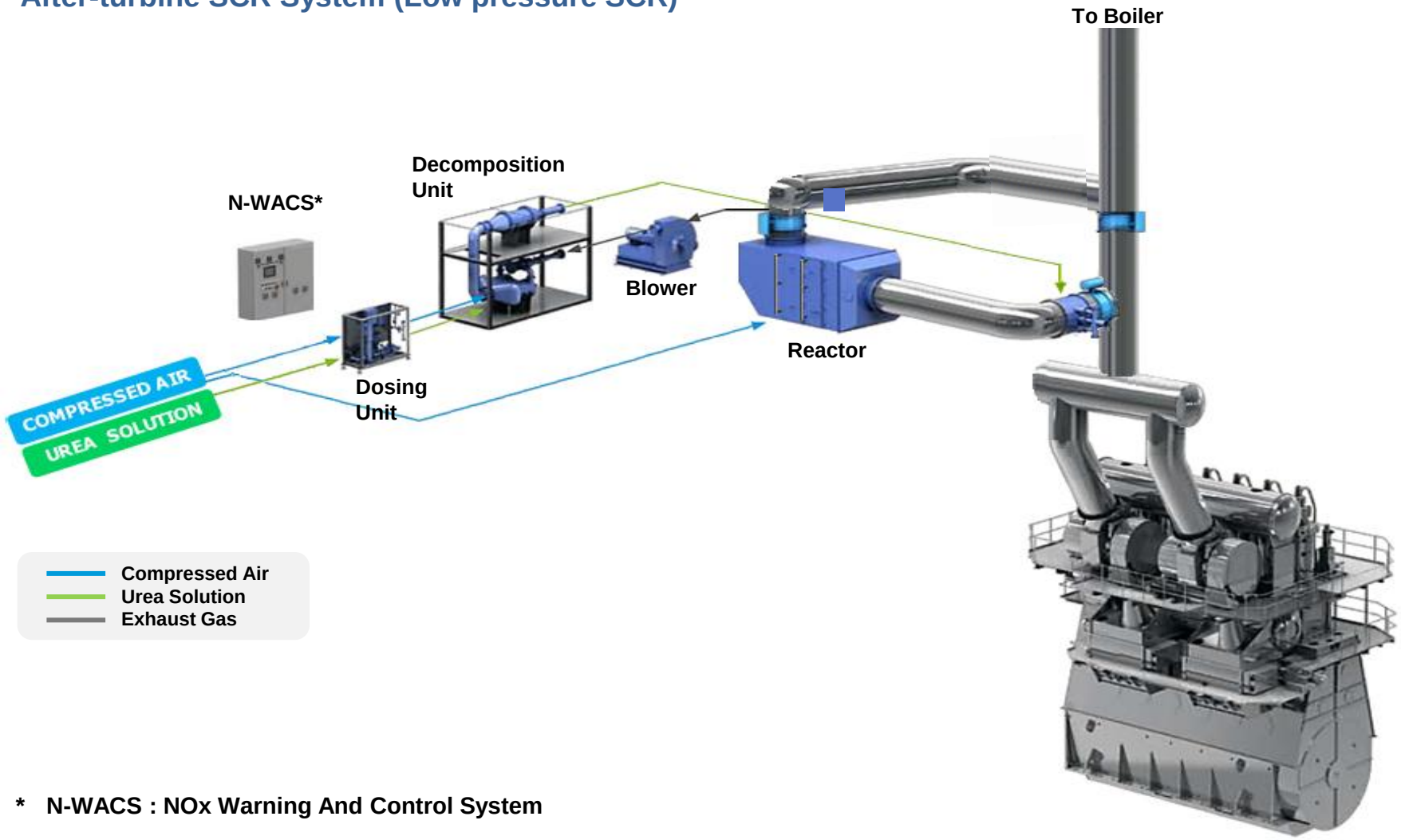
▪ EGR (Exhaust Gas Recirculation)

- NOx reduction by decreasing O_2 concentration of scavenge air
- Engine integrated + additional equipment
- More complex design

* EGR Process



After-turbine SCR System (Low pressure SCR)

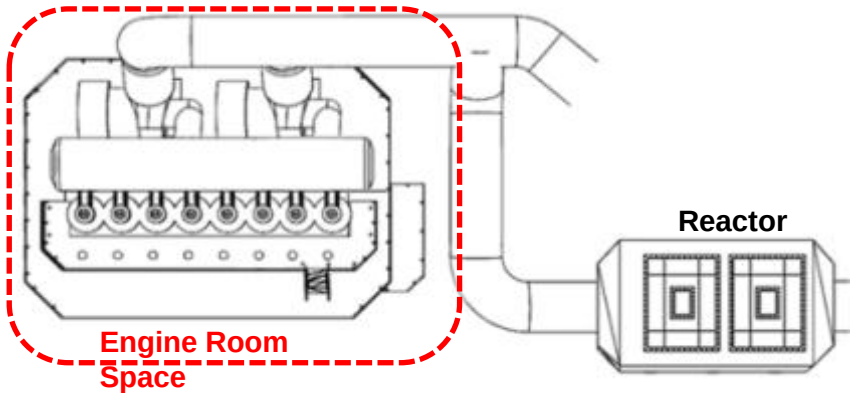


* N-WACS : NOx Warning And Control System

Investment Points 2. SCR

After-turbine SCR vs Pre-turbine SCR

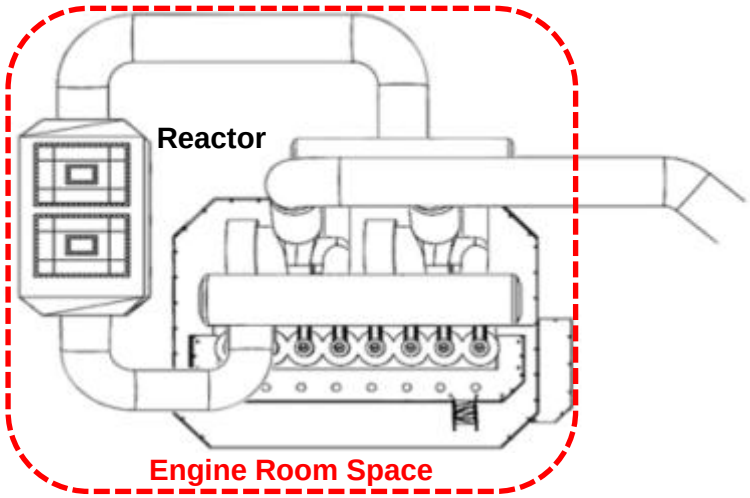
▪ After-turbine SCR (LP)



- Located after turbocharger
- Flexible arrangement in engine room and simple piping line
- Minimized modification of engine room design

" Best Solution for IMO Tier III Compliance, Shipyard Design & Shipowner Operation "

▪ Pre-turbine SCR (HP)



- Located between exhaust gas receiver and turbocharger
- Limited arrangement in engine room and complex piping line
  . Must be arranged near the main engine
  . Influenced by number of turbochargers
- Influence on engine room design

Appendix

I. Company overview

II. History

III. Plants

IV. Production infrastructure

V. Business area

Appendix 1. Company Overview

Overview

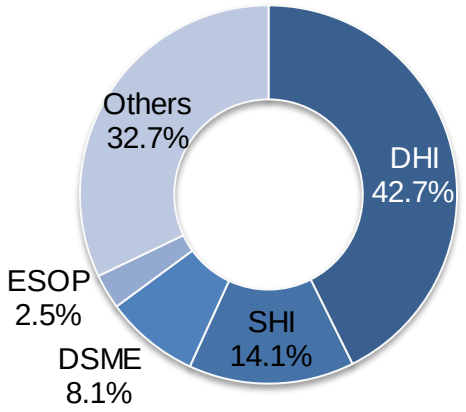
Company	Doosan Engine Co., Ltd
Date of Foundation	Dec 30, 1999
Address	Sinchon-dong 69-3, Seongsan-gu, Changwon-si, Gyeongnam
Business	Marine diesel engines / Diesel engines for power plants
Exports	Local/direct Exports(96%), Domestic (4%)
Capital	W69.5bn
No. of Employees	1,005 [As of Dec 2013]
Subsidiary	Doosan Marine Industrial (DMI) Dalian Co., Ltd (100% owned)

Business Areas

Business Areas	Sales (2013)	% of sales
Low-speed engine	W538bn	72%
Med-speed engine	W131bn	18%
Diesel power plant	W35bn	5%
Engine parts and C/S	W40bn	5%
Total	W744bn	100%

Shareholders

[As of 2013.12.31]



Appendix 2. History

Incorporation / developemnt

Platform for global expansion

Next-generation, environment-friendly engines

1983~2000

1983

- **Doosan Heavy Industries launches engine business**

1994

- Samsung Heavy Industries(SHI) launches engine business

1999

- Doosan Heavy Industries(DHI) and SHI agree to establish a JV, **HSD Engine**

2000

- HSD Engine establishes R&D center
- Equity placement of W25bn (Daewoo Shipbuilding & Marine Engineering(DSME) participates)

2001~2007

2001

- Signs business transfer agreement with DHI, on internal combustion generators

2002

- **Receives WCP (world class product) award from the Ministry of Commerce, Industry & Energy for its large diesel engines**

2005

- Changes company name to Doosan Engine Co., Ltd

2006

- Establishes DMI in China, and builds plants

2007

- **Receives US$1bn Export Tower Award**

2008~

2008

- Constructs assembly line 4 and medium-speed engine production line (capacity : low-speed (12mn HP) and medium-speed (500 units p.a.)

2009

- Raises \33bn of equity (offering, ESOP, and rights, public offering)

2011

- **IPO listing in KRX (2011. 1. 4)**

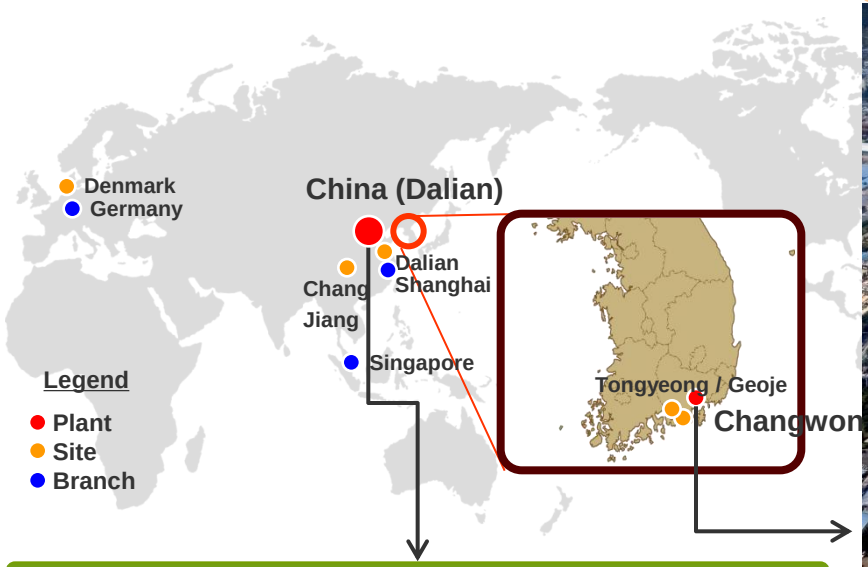
2012

- Achieves cumulative production of 80mn HP within shortest period (2012.1.31)

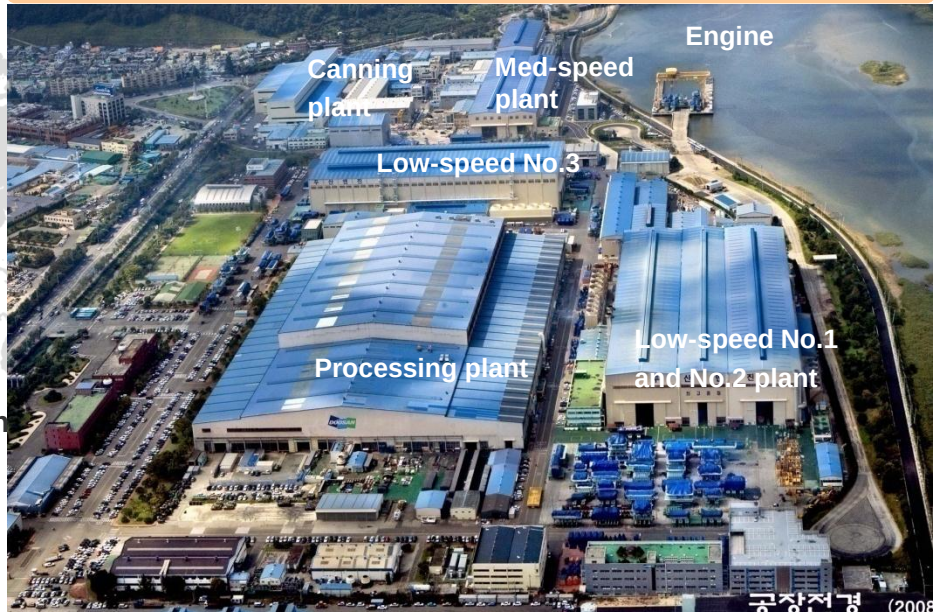
2013

- **Commercialization of ME-GI engine (2013. 3)**

Appendix 3. Plants



Changwon Plant (Headquarter)



- Products : Diesel engines
- Size : 328,000㎡(99,500 pyeong)
- Overview

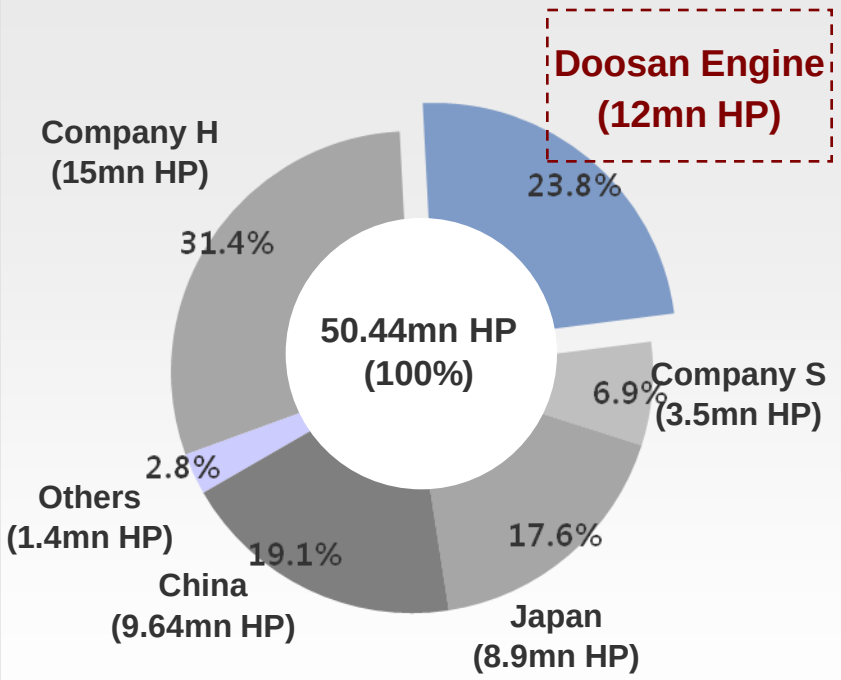
Classification	Size(㎡)	Production CAPA (per year)
Low-speed engine plants	42,720 (12,922 pyeong)	12,000,000 HP
Med-speed engine plant	17,010(5,145 pyeong)	2,000,000 HP
Processing plant	27,100(8,197 pyeong)	
Canning plant	4,894(1,480 pyeong)	
Total Capacity		**14,000,000 HP**

Dalian, China plant

- Size : 57,904㎡ (17,500 pyeong)
- Product line-up : Diesel engine parts
- Production capacity : 250 blocks of engine canning parts

Second largest diesel engine production facility in the world

Low-speed diesel engine production Capacity



Note : Estimates based on each company's 2010 annual report

Production facilities and infrastructure

1. Large low-speed diesel engine plant
   - Production capacity : 12mn HP
     (Operating in 6mn HP)
   - Assembly and testing plants
   - Processing plant (7 Plano Millers, 8 Boring)
   - Canning plant(250 blocks/year)
2. Medium-speed diesel engine plant
   - Production capacity : 500units
   - Assembly and testing plants
   - Processing plant (5 Plano Millers, 4 Mill-Turns)
3. Top-of-line production infrastructure
   - High-quality supply chain
     (Quality/stable procurement and joint R&D)
   - Cutting-edge production system
     ("Flow production", "fool-proof" system)
   - Skilled design and production workforce

Appendix 5. Business area : Low-speed diesel engines

Low-speed diesel engines

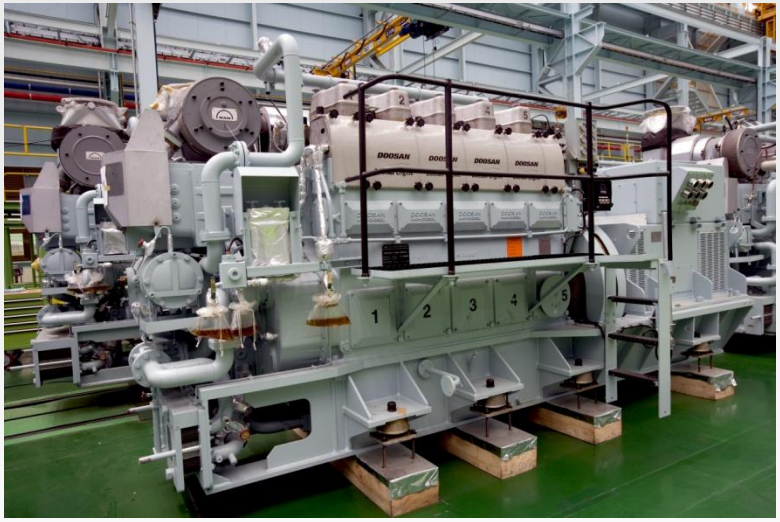
- Main Business(2013 Sales- 72% of total sales)
- Uses : Large vessels

  (e.g. containerships, crude tankers, LNG carriers)
- Market position : No.2 globally, with 24% m/s
- Customers : SHI, DSME, Yangzijiang(China)

  Sinopacific(China), COSCO(China)

Appendix 5. Business area : Med-speed diesel engines

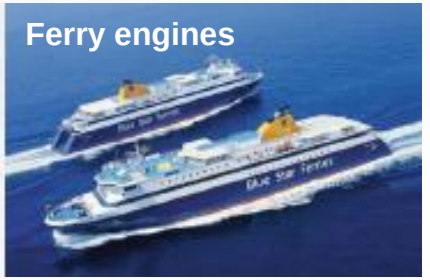
Medium-speed diesel engines



- New growth business

  (Sales : 18% of total sales in ’13)
- Uses : Auxiliary engines in large ship engines,

  Propulsion engines in small to mid-sized ships
- Customers : SHI, DSME, China, Brazil



Appendix 5. Business area : Power plants (Low-speed & Medium-speed)

Diesel Power Plant

Med-speed Diesel Power Plant

- Med-speed diesel power plant engine
- Generates 1~25MW power suited for small capacity power plant
- Installed in small islands or remote areas and used for emergency purpose

  (Philippines, Fujairah, Bangladesh)

Emergency Generators for Nuclear Power Plants

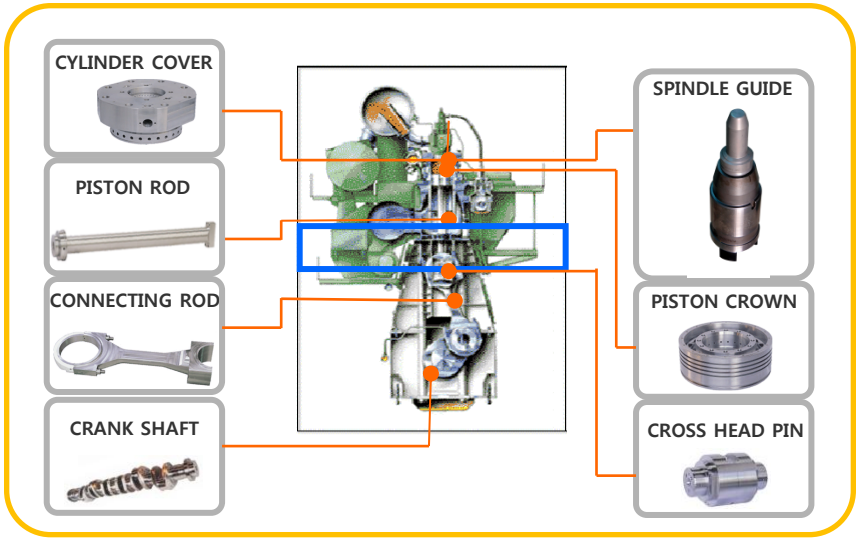
No.1 supplier of emergency generators for nuclear power plants

- Exclusive supplier of emergency generators for nuclear power plants in Korea; Orders to grow from rise in nuclear power plant exports
- Generates power capacity of 3,500 ~ 9,000KW
- Supplied to the major nuclear power plants in Korea

※ DPP (Diesel Power Plant) : Power plant with small capacity that is used in a place where construction is difficult (e.g. islands)
EDG (Emergency Diesel Generator) : EDG is a diesel-powered emergency backup systems for nuclear power plants

Appendix 5. Business area : Parts & C/S

Main engine parts



- Uses : Ship engines, Retrofit
- Customers :
  - 14 agencies (12 domestic, 2 overseas)
  - Ship owners: A.P.Moller(Denmark), CSCL(China), NOVO Ship(Russia)
- Market size : 600bn(as of 2012)
- Business overview
  - Domestic production of engine parts
  - Developing paid A/S items

CYLINDER COVER

ROD(CON/PISTON)

ALPHA RETROFIT

CROSS HEAD PIN

Appendix 6. IR Contact point

For further information about our company or affiliates, please contact us at the following.

Company	Name	Phone	E-mail
Doosan Engine	**Mr. LEE Moosup**	**82-2-519-5878**	**moosup.lee@doosan.com**
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Doosan Infracore	Ms. OH Hyunji	82-2-3398-8416	hyunji.oh@doosan.com
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