Contents

DOOSAN INFRACORE CORPORATE OVERVIEW

01 Introduction of Doosan Group
02 Introduction of Doosan InfraCORE
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Introduction of Doosan Group

In an ever-changing world, the leading global infrastructure support business is the one that adapts with it.
About Doosan

Korea’s Oldest Enterprise with a proud history of 115 years

1896~
Established as Korea’s first modern retail business

1950~
Diversified into construction, food/beverages, machinery, electronics, etc., based on brewing and international trade

1980~
Ventured into publishing and advertising, and focusing on becoming international

1996~
Integrating 23 affiliates into 4 companies (Doosan Corp, Engineering & Construction, Packaging, and Oricome)

2000~
Transition to an ISB-driven business portfolio through the acquisitions of Korea Heavy Industries & Constructions, Daewoo Heavy Industries & Machinery, etc.

Park Seungjik Store was founded in 1896

Currently, ranked 12th in Korea
Chapter 01 Introduction of Doosan Group

Changing the world's landscape since 1896
Doosan has been striving to improve quality of life through Infrastructure support business

Doosan Group

- Doosan Heavy Industries & Construction
- Doosan Corporation
- Doosan Banks
- Doosan Food & Livestock
- Doosan SRS Korea, Citicom
- Doosan Tower Blox
- Doosan Engineering & Construction
- Doosan (Defense Systems & Technology)
- Doosan Infracore

- Construction equipment
- Machine tools
- Engines

- Power generation
- Nuclear energy
- Desalination

- Construction
- Large ship engine
- DST (Defense Systems & Technology)
Doosan's Status _ Revenue

Sales

<table>
<thead>
<tr>
<th>Year</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales (USD in billions)</td>
<td>11.4</td>
<td>14.8</td>
<td>19.9</td>
<td>20.6</td>
<td>16.7</td>
<td>21.3</td>
</tr>
</tbody>
</table>

CAGR: 21%

[Unit. USD in billions]
Introduction of Doosan Infracore

A comprehensive company with various business groups and an extensive product lineup that is able to effectively respond to every need
Chapter 02 Introduction of Doosan Infracore

Reaching for Greatness_Vision

Vision of reaching the global Top 3

- Construction Equipment
  - Global Top 3
- Machine Tools
  - Global Top 3 in Metal Cutting
- Engine
  - Global Top Tier Engine with Best Technology
Reaching for Greatness_Growth
Astonishing growth averaging 12.3% every year since 2004

Revenue (USD in billions)

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue (billion)</th>
<th>CAGR%</th>
<th>2004</th>
<th>2007</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
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</thead>
<tbody>
<tr>
<td>2004</td>
<td>3.0</td>
<td></td>
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<tr>
<td>2007</td>
<td>4.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>4.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>6.8</td>
<td>12.3%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>7.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>7.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Rapid growth with Bobcat
- In 2007, DI acquired Bobcat, Global No.1 SSL/CTL Maker.
- Bobcat account for over 46% of total Revenue
  - 2007 $2.8B → 2012 $3.5B
Chapter 02 Introduction of Doosan Infracore

Extensive Global Business Network

An extensive global business network

- Base of operations: 103
- Sales Operations: 48
- Large Scale Production Base: 18
- Parts Center: 7
- Dealer Network: 3,978
Equipped for Success
An excellent portfolio and extensive lineup

[ Excavators ]  [ Wheel loaders ]  [ Articulated dump trucks ]  [ Attachments ]

[ Skid steer loaders ]  [ Compact equipment ]  [ Generators ]
Powering a New Generation
A global world-class engines manufacturer

[Diesel / gas engines for generators]

[Diesel engines for industrial use]

[Diesel / gas engines for vehicles]

[Diesel engines for marines]
Chapter02 Introduction of Doosan Infracore

Being Known as the Best
Leading the world with precise and innovative technology

- Turning centers
- Horizontal boring mills
- Swiss turning centers
- Machining centers
- Wire-cut EDM
- Double column machining centers
Introduction of Engine BG

Engine is the heart of power generation, commercial vehicles, and general machinery.
### History of Engine BG

#### 1950~70’s
- **1958** Marine Engine (AVL)
- **1975** Medium Engine (MAN License)
  - D0846, D2156 (7.6ℓ) (10.4ℓ)
  - Engine Plant Established
- **1979** Small Engine (ISUZU License)
  - 4BA1, 6BB1 (2.8ℓ) (5.4ℓ)

#### 1980~90’s
- **1983** Large Engine (MAN License)
  - D28 Series (14.6, 18.3, 21.9ℓ)
- **1985** ‘STORM’ Engine, the first in house designed engine
- **1988** Small Engines
  - 3AB1, C223, C240, 4BC2 (1.8ℓ) (2.2ℓ) (2.4ℓ) (3.3ℓ)

#### 2000’s
- **2001** Tier II Engine
- **2004** Euro III Engine
- **2006** Received GM Group Supplier Of the Year (SOY) award
- **2007** Euro IV Engine
- **2008** Started G2 engine development
  - CNG Engine Assembly Plant in Atlanta, USA
    - US07 Certified
- **2009** Joint Venture with XCMG in China: XDEC

#### 2010’s
- **2010** Euro V Engine.
  - US10 CNG Engine (supplied to LAMTA)
- **2011** Tier IV-Interim Engine
- **2012** XDEC, Start of Production
  - Started to produce the G2 engine for forklift from October
- **2013** Start to produce the G2 engine for Bobcat from August
### Global Operation (Incheon HQ)

- **Engine shop**: 38,300 m²
- **Foundry shop**: 20,000 m²
- **Capacity**
  - Engines: 172,000 units/year
  - Materials: 50,000 tons/year
- **Employee**
  - Mgt. Staff: 1,130
  - R&D: 230
  - Production Worker: 570

#### Global Operation (Incheon HQ)

- **Since 1975**
- **G2 Engine**: 100,000/year
- **Compact**: 20,000/year
- **Medium**: 40,000/year
- **Large**: 12,000/year

- **<3.4L**
- **<5.9L**
- **<11.1L**
- **<22.2L**
Global Operation

Production Facilities
Dealer Network

<table>
<thead>
<tr>
<th>DEALER NETWORK</th>
<th>Total</th>
<th>Asia</th>
<th>Europe</th>
<th>America</th>
<th>Africa/Middle East</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>226</td>
<td>71</td>
<td>40</td>
<td>30</td>
<td>23</td>
<td>62</td>
</tr>
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</table>
# Business Overview

## Application

<table>
<thead>
<tr>
<th>1</th>
<th>Industrial Engine</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>• Excavator,</td>
</tr>
<tr>
<td></td>
<td>Wheel Loader</td>
</tr>
<tr>
<td></td>
<td>Forklift</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2</th>
<th>Commercial Vehicle</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• MDT, HDT</td>
</tr>
<tr>
<td></td>
<td>• Medium/Heavy Bus</td>
</tr>
<tr>
<td></td>
<td>• Special Purpose</td>
</tr>
<tr>
<td></td>
<td>Vehicle</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3</th>
<th>Marines &amp; Generator</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Mobile / Stand-by</td>
</tr>
<tr>
<td></td>
<td>Generator</td>
</tr>
<tr>
<td></td>
<td>• Commercial Boat</td>
</tr>
</tbody>
</table>

## Major Customer

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DI CE BG</td>
<td></td>
</tr>
<tr>
<td>Bobcat</td>
<td></td>
</tr>
<tr>
<td>Doosan Forklift</td>
<td></td>
</tr>
<tr>
<td>Tata Daewoo</td>
<td></td>
</tr>
<tr>
<td>Daewoo Bus</td>
<td></td>
</tr>
<tr>
<td>PSI, SDMO,</td>
<td></td>
</tr>
<tr>
<td>Generac, Himoinsa, Etc</td>
<td></td>
</tr>
</tbody>
</table>


**Product Overview**

<table>
<thead>
<tr>
<th>Buses</th>
<th>Daewoo Bus</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Bus Image" /></td>
<td><img src="image2.png" alt="Bus Image" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Trucks</th>
<th>Tata / Dealers</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3.png" alt="Truck Image" /></td>
<td><img src="image4.png" alt="Truck Image" /></td>
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</table>

<table>
<thead>
<tr>
<th>Industrial</th>
<th>Doosan CE/FL BG</th>
</tr>
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<tbody>
<tr>
<td><img src="image5.png" alt="Industrial Image" /></td>
<td><img src="image6.png" alt="Industrial Image" /></td>
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<table>
<thead>
<tr>
<th>CNG</th>
<th>CNG Vehicle Manufacturers</th>
</tr>
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<tbody>
<tr>
<td><img src="image7.png" alt="CNG Image" /></td>
<td><img src="image8.png" alt="CNG Image" /></td>
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</table>

<table>
<thead>
<tr>
<th>Generators</th>
<th>Domestic / Overseas Dealers</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image9.png" alt="Generator Image" /></td>
<td><img src="image10.png" alt="Generator Image" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Marines</th>
<th>Domestic / Overseas Dealers</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image11.png" alt="Marine Image" /></td>
<td><img src="image12.png" alt="Marine Image" /></td>
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</table>
Chapter 03 Introduction of Engine BG

Product Line-up

Key facts

<table>
<thead>
<tr>
<th>Engine Families</th>
<th>G2</th>
<th>DL</th>
<th>DE</th>
<th>GE &amp; GV</th>
<th>DV</th>
<th>(VX)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series</td>
<td>1.8 ~ 3.4</td>
<td>5.8 ~ 7.6</td>
<td>8.1 ~ 11.1</td>
<td>8.1 ~ 21.9</td>
<td>14.6 ~ 21.9</td>
<td>18 ~ 27</td>
</tr>
<tr>
<td>Displ. (Litres)</td>
<td>43 ~ 125</td>
<td>270 ~ 340</td>
<td>156 ~ 400</td>
<td>240 ~ 625</td>
<td>300 ~ 1200</td>
<td>1000 ~ 2000</td>
</tr>
<tr>
<td>Power (PS)</td>
<td></td>
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</tr>
</tbody>
</table>
Financial Performance

Continuous & Sustainable Growth (USD in Millions)

- **CAGR 5.6%**
  - Continuous Growth with stable Internal sales (CE) & Generator Engine Biz expansion.
- **CAGR 18.1%**
  - Inorganic Growth with New Growth Drivers

<table>
<thead>
<tr>
<th>Year</th>
<th>Value</th>
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<tbody>
<tr>
<td>2007</td>
<td>531</td>
</tr>
<tr>
<td>2008</td>
<td>592</td>
</tr>
<tr>
<td>2009</td>
<td>537</td>
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<tr>
<td>2010</td>
<td>666</td>
</tr>
<tr>
<td>2011</td>
<td>713</td>
</tr>
<tr>
<td>2012</td>
<td>631</td>
</tr>
<tr>
<td>2017</td>
<td>1,589</td>
</tr>
</tbody>
</table>

- CE Engine: 21%
- CV Engine: 22%
- GEN Engine: 30%
- Marine Engine: 7%
- AM & Casting, etc: 20%
Building your tomorrow today

Doosan Infracore