Outline

1. Shipbuilding Market

2. Korean Shipbuilding Industry

3. Forecast of Shipbuilding Market

4. Korean Gov’t Policy

5. Cooperation with Greece
1. Shipbuilding Market (1)

- 2016 was a year with a historically low level of new-building demand
- Supply side adjustments in reaction to continued market pressures

< World Historical Contracting (Clarkson, ‘18. 3) >
1. Shipbuilding Market (2)

- Over supply and low demand resulted in weak price of a vessel

< Clarkson’s newbuilding Price Index >

< Newbuilding Price Index by Type >

< LNG Carrier >

< Large Containership >

< MR Tanker >
2. Korean Shipbuilding Industry (1)

- 84 shipbuilding companies in Korea

<table>
<thead>
<tr>
<th>Size</th>
<th>Number</th>
<th>Companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large</td>
<td>5</td>
<td>HHI, DSME, SHI, H-Mipo, H-Samho</td>
</tr>
<tr>
<td>Med-Large</td>
<td>5</td>
<td>STX, Daehan, Hanjin, Sungdong, Daesun</td>
</tr>
<tr>
<td>Small</td>
<td>More 74</td>
<td>Samkang, Kangnam, Mastek etc.</td>
</tr>
</tbody>
</table>

- Large companies are key players in employment and sales

![Pie chart showing employment distribution](chart1.png)

- Large: 89%
- Mid-Large: 8%
- Small: 3%

![Pie chart showing sales distribution](chart2.png)

- Large: 93%
- Mid-Large: 6%
- Small: 1%
2. Korean Shipbuilding Industry (2)

- Korean shipbuilders top in the global shipbuilding industry

- Korean shipbuilding has been accounts for about 30% of the global market for last 20 years

<Clarksons’ Research, ’18.4>
2. Korean Shipbuilding Industry (3)

- Painful efforts to survive the cycle and depression

**Challenges**

- 86% decrease of new-order
  ('07) 92M CGT → ('16) 13MCGT
- Significant drop of Price
- Increased competition

**Restructuring**

- Capacity Reduction
  - Among 32 docks, 10 temporarily closed
  - Lay off
- Securing liquidity and cash flow
- Keeping core assets

- Huge losses of Big 3 came from not shipbuilding but offshore plant
2. Korean Shipbuilding Industry (4)

- 25 mid size shipbuilders were bankrupt

- Korean gov’t has taken various measures to minimize negative impacts from recession and restructuring of shipbuilding industry

<table>
<thead>
<tr>
<th>Year</th>
<th>Layoffs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec. 2015</td>
<td>1.88 million</td>
</tr>
<tr>
<td>Apr. 2018</td>
<td>1.08 million</td>
</tr>
</tbody>
</table>

80,000 Layoff

< Shipbuilding in Regional Gross Production(%) >
2. Korean Shipbuilding Industry (5)

- Korea’s market share is increasing and making recovery.

- The growth rate of Korea’s contracting is more bigger than that of world new contracting.
3. Forecast Shipbuilding Market (1)

- Policy should consider key trends of the future market

① Supply and Demand
② Regulation
③ Technology development
④ Competition among global shipbuilders

- How to enhance the competitiveness
3. Forecast Shipbuilding Market (2)

- Factors for shipping and shipbuilding are positive.

**World Economy growth**

**Seaborne Trade**

**Oil Price**

**Protected Investment**
3. Forecast Shipbuilding Market (3) - Demand

- It’s clear that global shipping is on course for recovery
- But it’s not a big boom
3. Forecast Shipbuilding Market (4) - Supply

- Supply: capacity of shipbuilding was decreased significantly
  - Down sizing and slow production

<table>
<thead>
<tr>
<th>Year</th>
<th>m.CGT</th>
</tr>
</thead>
<tbody>
<tr>
<td>'00</td>
<td>50</td>
</tr>
<tr>
<td>'01</td>
<td>60</td>
</tr>
<tr>
<td>'02</td>
<td>70</td>
</tr>
<tr>
<td>'03</td>
<td>80</td>
</tr>
<tr>
<td>'04</td>
<td>90</td>
</tr>
<tr>
<td>'05</td>
<td>100</td>
</tr>
<tr>
<td>'06</td>
<td>110</td>
</tr>
<tr>
<td>'07</td>
<td>120</td>
</tr>
<tr>
<td>'08</td>
<td>130</td>
</tr>
<tr>
<td>'09</td>
<td>140</td>
</tr>
<tr>
<td>'10</td>
<td>150</td>
</tr>
<tr>
<td>'11</td>
<td>160</td>
</tr>
<tr>
<td>'12</td>
<td>170</td>
</tr>
<tr>
<td>'13</td>
<td>180</td>
</tr>
<tr>
<td>'14</td>
<td>190</td>
</tr>
<tr>
<td>'15</td>
<td>200</td>
</tr>
<tr>
<td>'16</td>
<td>210</td>
</tr>
<tr>
<td>'17</td>
<td>220</td>
</tr>
<tr>
<td>'18.5</td>
<td>230</td>
</tr>
</tbody>
</table>

**< Global Orderbooks >**

450 Shipyards * inactive

600 in 2008 → 150 in 2017

* Number of yards to win at least one contract 20,000+dwt

- China’s capacity has been decreasing (M&A, Bankrupt)
3. Forecast Shipbuilding Market (5) - Regulations

- Environment Regulations accelerate new vessel orders and retrofits.

< NOx : Tier III >

< SOx : 3.5% → 0.5 >

< CO2 Reduction>

Reduce the total GHG emissions by 50% by 2050
3. Forecast Shipbuilding Market (6) - Technology

- Technology developments can support productivity of shipyard and give solutions to regulations.

- *YARA Birkeland’s Autonomous ship*

- *HHI INTEGRICT smart ship solution*
South Korea’s president has announced his commitment to revitalizing the nation’s shipbuilding sector.

“Korea can become a global shipbuilding leader once again”

“The vision of becoming a global shipbuilder is a national task that we cannot give up,”
4. Gov’t Policy for Shipbuilding (2) - Direction

- Rebuild robust shipbuilding Industry
- Focus on growth quality and Tech.
- Change targets - good quality Job

3 Innovations
- COST
- TECH
- SYSTEM

- Gov’t
- Financing
- Shipping
4. Gov’t Policy for Shipbuilding (3) – Demand

- First priority to overcome the crisis by facilitating domestic demand

- Public new orders of 67.7 billion dollars will be placed during 2017-2020

- Expanding financing to shipping
  - Establishment of the Korea Ocean Business Corporation (July 2018)
  - Expanding financing programs for new orders
4. Gov’t Policy for Shipbuilding (4) - Technology

- Investment for recovery of market and the future

R&D for marine equipment of green ship

- Preparing changing of vessel fuels
  - LNG
  - Electric
  - Hydrogen

R&D for autonomous ship

Keeping skilled workers
4. Gov’t Policy for Shipbuilding (5) - Partnership

- Strengthen partnerships with client countries
- About 75% of orders came from overseas ship owners
5. Cooperation with Greece (1) Long time friend

- A Greek is start for Korean shipbuilding industry

Greek Shipping Tycoon George S. Livanos was the first customer of the Hyundai Heavy Industries

Over 80% of bilateral trade came from maritime industry

- Great ship owner has a keen eye on the best shipbuilder

Korea is a power house in shipbuilding with best technology and quality
6. Cooperation with Greek (2) - Trade

Greek’s ship order
- Korea: 44%
- Others: 56%

Korean Export to Greece
- Ship: 82%

National Ranking of ship order to Korea
- Greece
- Korea
- Switzerland
- Norway
- Singapore
- Hongkong
- etc
- non-open
5. Cooperation with Greece (3) High level Meeting

- Long accumulation of mutual trust has proved its real worth

- Explore ways to strengthen cooperation

Prime Ministers’ Meeting (Oct. 2017)
Lee Nak-yeon & Alexis Tsipras

Ministers’ Meeting (June 2014)
Yoon Sang-jick & Miltiadis Varvitsiotis
ευχαριστώ
Thank you
감사합니다

- Kamchan Kang
- Director of Shipbuilding and offshore plant division
- +82 44 203 4330
- chankk@motie.go.kr