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- 2. Korean Re Overview
- 3. Marine Team
- 4. International Marine & Energy Division
- 5. Major claims involvement

1.1 Country Info – South Korea

Country

■ Capital : Seoul

■ **Population**: 51.25 Million

■ **GDP**: USD 1.4466 Trillion (11th in the World)

■ **GDP per capita**: USD 29,115 (2017)

■ **GDP by sector**: Industry(39.2%), Services(58.2%), Agriculture(2.6%)

■ Main Industries: Electronics, Telecomm, Auto, Ships, Chemicals, Steel etc

Labor Force : 25 Million

Exports: USD 495.43 Billion (China and US together represent more than 40%)

- On Shipbuilding: Greece is #1

Shipping & Shipbuilding

■ Shipping: 7th in the World (1,656 vessels, 81M DWT) – UNCTAD 2017.10

■ **Shipbuilding**: 2nd in the World by Orderbook – Clarkson Research 2018.4

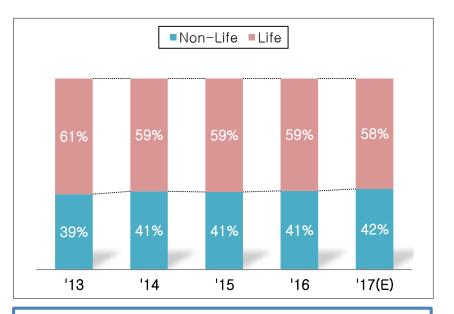
1.2 Insurance Market – South Korea



(Unit: USD B) Non-Life Life ——Total 4.4% 5.5% 3.5% 0.8% \[\text{0.8} \] \[\text{102} \] \[\text{72} \] \[\text{104} \] \[\text{75} \] \[\text{109} \] \[\text{78} \] \[\text{112} \] \[\text{111} \] \[\text{117} \]

- GWP USD 192Billion (0.8% growth)
 - o N-L: USD 81B (3.0%↑)
 - o L: USD 111B (△0.7%↓)

Non-Life and Life Proportion



- Non Life: 42% of total
 - o FY13 39% → FY17 42% (3%p \uparrow)
- Life: 58% of total
 - o FY13 61% \rightarrow FY17 58% (\triangle 3%p \downarrow)

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2.1 Korean Re Key Facts

History

■ **1963**: Established as Korean non-life reinsurance corporation (state run company)

■ 1978 : Privatized & listed in the Korean stock market

■ **2011**: Credit rating upgraded from A.M. Best 「A-」 to 「A (Stable)」 in Feb. 2011

■ **2014**: Credit rating upgraded from Standard & Poor's 「A-」to 「A (Stable)」in Oct. 2014

2017: **Top 10th reinsurer**(FY2016) in the global reinsurance market

Employee

■ Total employee : 340+

Organization

■ **Headquarter** : Total 21 teams

(7 underwriting teams / 1 investment team / 13 administrative teams)

■ International: 3 branches (Singapore, Labuan, Dubai) + Zurich(underway)

2 subsidiaries (Hong Kong, London)

4 liaison offices (Beijing, Tokyo, New York, London)

2.2 Global Network Channel at a glance



- Continuous expansion of global network to explore new market opportunities
 - Newly set up "Global Project Team" which is exclusively responsible for overseas establishment plans in July 2017
- Newly set up Korean Re U/W Ltd.(Mar. 2015), Malaysia Labuan branch(July 2017) and Dubai branch(Nov. 2017)
- Ongoing Overseas branch establishment plans
 - Waiting for license approval of Shanghai branch

2.3 Global Reinsurers [2016 Gross Premiums]

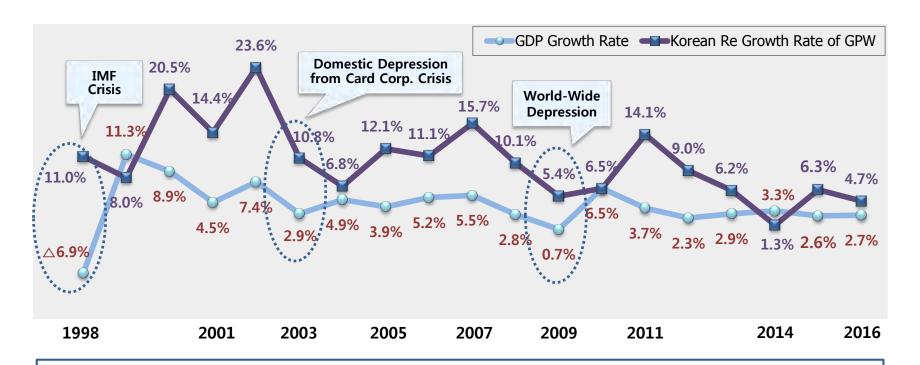
(Unit: USD Bil.)

Ranking	Organized Name	Gross Premiums	A.M. Best Rating	S&P Rating
1	Swiss Re (Switzerland)	35.6	A+	AA-
2	Munich Re (Germany)	33.2	A+	AA-
3	Hannover Re (Germany)	17.2	A+	AA-
4	SCOR SE (France)	14.6	A+	AA-
5	Berkshire Hathaway (USA)	12.7	A++	AA
6	Lloyd's (UK)	11.6	Α	A+
7	RGA Inc. (USA)	10.1	A+	AA-
8	China Reinsurance Group (China)	7.9	Α	А
9	Great West Lifeco (Canada)	6.2	A+	-
10	Korean Re (South Korea)	5.6	Α	A

X Source: A.M. Best, S&P (2017.9)

- A.M. Best credit rating upgraded from 「A-」 to 「A (stable)」 in February 2011
- S&P credit rating upgraded from 「A-」 to 「A (stable)」 in October 2014
- **Ranking development**: '98: $32^{\text{nd}} \rightarrow '05: 15^{\text{th}} \rightarrow '08: 13^{\text{th}} \rightarrow '14: 11^{\text{th}} \rightarrow '16: 10^{\text{th}}$

2.4 Growth Trend & Prospect



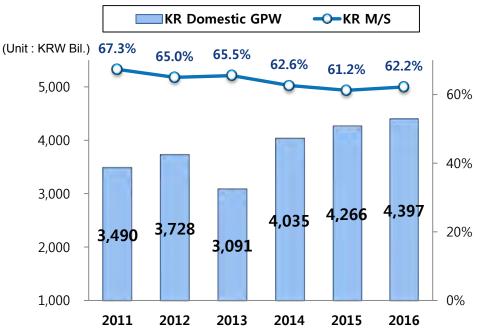
■ Average Korean Re GPW growth rate > Average Korea GDP growth rate

- 2016 Korean Re GPW Growth Rate: 4.7%
 - ⇒ Despite persisting low domestic growth & soft market trend, Korean Re increased new accounts from personal & overseas business

■ Main growth engines

- Exploring new markets of property, cooperatives, government insurance, etc.
- Co-development of new products responding to market needs in personal lines

2.5 Dominant Domestic Market Position



Item	2012	2013 (9 months)	2014	2015	2016
Korean Reins. Mkt.	5,740	4,717	6,448	6,966	7,070
Korean Re's share	3,728	3,091	4,035	4,266	4,397
Korean Re M/S	65.0%	65.5%	62.6%	61.2%	62.2%

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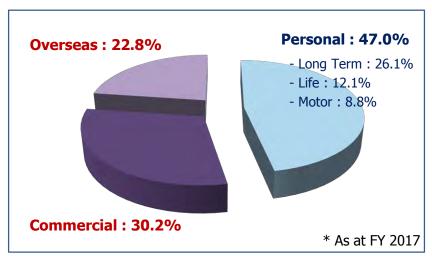
Dominant market position in Korean non-life reinsurance

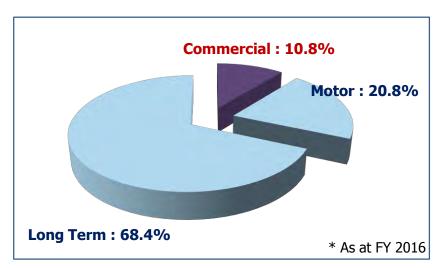
- Korean Re's domestic GPW shows a stable growth (5 year average : 4.2%)
- Recent reduction in M/S caused by primary insurers' increased non-proportional rates which Korean Re does not participate due to risk accumulation management
- Expect to maintain dominant position with over 60% M/S

^{*} FY 2013 : based on 9 months

2.6 Underwriting Portfolio Distribution

■ GPW Portion by Line of Business





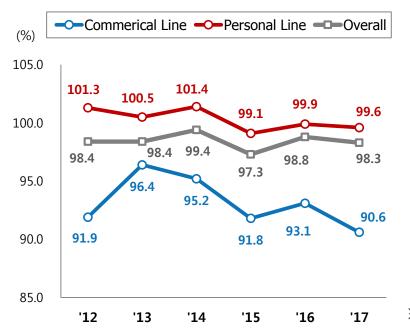
[Korean Re]

[Korean non-life market]

- The commercial and overseas comprises 53% of the total portfolio
- Further diversification has been brought into the business portfolio by the expansion of the overseas portion
 - **⇒ Overseas : [FY'07] 18.3% (KRW 672 Bil.)** → [FY'17] 22.8% (KRW 1,640 Bil.)
- The portfolio of personal lines, which has a low possibility of major loss, comprises 47% of the total portfolio

2.7 Overall Results

■ The nearest trend of improved and stable Combined Ratio



Item	2012	2013 (9 months)	2014	2015	2016	2017
Commercial	91.9	96.4	95.2	91.8	93.1	90.6
Personal	101.3	100.5	101.4	99.1	99.9	99.6
Overseas	96.9	95.8	98.4	97.0	100.7	100.2
Combined Ratio	98.4	98.4	99.4	97.3	98.8	98.3
- Loss Ratio	80.6	80.2	81.8	80.3	81.4	80.3
- Expense Ratio	17.8	18.2	17.6	17.0	17.4	18.0

- **X** Excluding foreign currency evaluation effect
- Profitability-oriented treaty structure: Effective sliding scale and profit commission
- Diversified class portfolio [FY 2017]:

 Commercial (30%) / Long term (26%) / Motor (9%) / Life (12%) / Overseas (23%)
- Effective risk optimization per risk & event : Adequate retention with XOL cover by LOB

2.8 Overseas Portfolio by Region

Overseas P/F Change

(Unit: %)

Region	2012	2013	2014	2015	2016	2017
Far East Asia	37.7	38.0	37.6	36.1	31.5	30.0
Middle East Asia	15.8	16.3	15.1	12.2	11.2	12.3
South East Asia	6.5	6.8	6.6	11.2	13.9	11.7
Asia Total	60.0	61.1	59.3	59.5	56.6	54.0
North America	12.7	14.2	16.4	18.9	21.8	19.6
Latin America	3.7	3.3	3.0	2.9	3.3	6.6
America Total	16.4	17.5	19.4	21.8	25.1	26.2
Europe	15.9	15.2	15.1	13.6	14.8	15.9
Africa	2.9	1.4	1.1	0.9	0.7	0.7
Others*	4.8	4.8	5.1	4.2	2.8	3.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

^{*} Others: Retrocession & multi-territory accounts

■ Focusing on profitable lines and regions

- Reducing concentration of exposure to Asia: 60.0% (2012) → 54.0% (2017)
- US market comprises the largest portion leading ahead of China since FY2016
- Continue to diversify the P/F through exploring new markets outside of Asia

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3.1 KOREAN RE MARINE, ENERGY & AVIATION

BASIS OF COVERAGE

- Treaty (Proportional & Non-proportional)
- Direct & Facultative (incl. Direct through Fronting)

LINES OF BUSINESS

- Marine Cargo
- Marine Hull and Shipbuilding
- Aviation & Space
- Upstream Energy

TREATY

Marine Comb / Standalone Hull: US\$ 10M

- Hull, Cargo, War
- Combined / Whole Account Marine, Marine & Energy, Marine & Aviation
- Soft Retro and LMX
- Quoting for XL and Proportional
- Actively Leading in Asian markets
- Focusing on expansion in the US and Europe
- Not Preferred : Worldwide Retro Proportional

Aviation: US\$ 50M

- Proportional / Local Non-Proportional
- · General Aviation, Airlines & Combined

Space: US\$ 4M

Satellite Launch & In-Orbit

Upstream Energy: US\$ 10M

- Limited GOM exposure, London Mkt tty
- Proportional / Non-Proportional
- prefer Local programs
- REC

DIRECT & FAC

Cargo: US\$ 30M

- Preferred : Project Cargo, Oil, Chemical , Specie & Fine Art
- Not Preferred : Standalone Storage, Automobile, Inland War Risks, Single Shipment, Standalone DSU, Marine Liability

Space & Aviation: US\$ 4M-60M

- · Airlines: US\$ 60M
- General Aviation : US\$18M
- Space: US\$4.2M per Satellite
- •Major Satellite Operators and Owners
- Not Preferred : Standalone Loss of Use, Loss of License

Marine Hull & BR : US\$ 30M-50M

- Builder's Risks with JH143 C or above
- Megayachts, Cruises, Conventional Vsls, OSVs
- Excluded: DTV worded risks, RoRos, Old GGCs, Factory type FVs

Upstream Energy: US\$ 80M-100N

- E&P Operation / Standalone CoW
- Mobile Units (Rigs / Production)
- Construction
- Excluded : GoM, Standalone BI/TPL, SPMs

Offshore Windfarm : US\$ 30M

- Construction & Operation
- Europe only
- Serial Loss Clause, MWS Cl & Scope of Work
- Leg 3 cover for construction up to 4MW
- WELCAR defective part cl (for operation)

CONTACTS

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Cargo

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Donghun. Kim (6198, donghunkim)
Jenny Chung (6196, seoyoon.jc)
JW Choi (6195, jonchoi)

Space & Aviation

H.S. Choi (6182, hschoi) Seyong Park (6180, seyong.park) Kwanghyun Nam (6185, khnam)

Marine Hull & Combined Treaty

M.S. Bae (6308, msbae)
Julie Kwon (6190, na.kwon)
June Kim (6186, eunjoong.k)
Jaemin Shin (6298, jaemins)

Marine Hull (Direct & Fac.)

David Kim (6173, dkimsj)
Jihyung Ryu (6187, jihyung.ryu)
Taeyang Kim (6197, sunnykim)
Walter Park (6178, swpark)

Upstream Energy & Offshore Windfarm

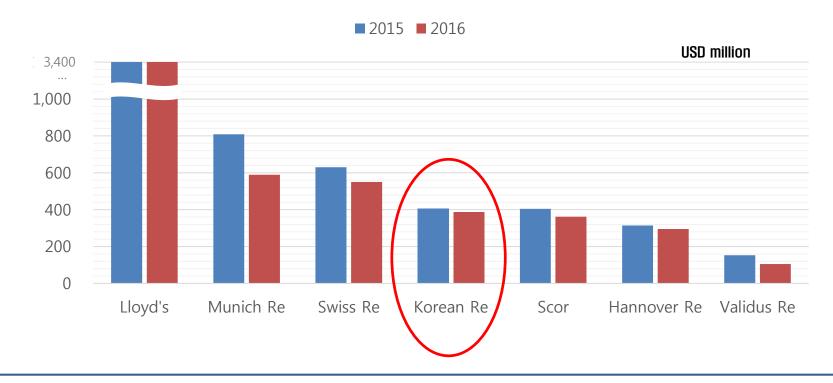
David Kim (6173, dkimsj)
Jay Lee (6194, jungjae.lee)
Dain Won (6179, dain.won)
Woojin Chung (6188, woojinchung)

FINANCIAL STRENGTH RATING

S&P: A (Stable Outlook)

AM Best: A (Stable Outlook)

3.2 Peer Group Analysis



■ Korean Re's written premium: USD 400M

- Fourth place
- excluding Mutual / Costal business

3.3 Korean Clients







































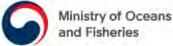




















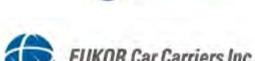




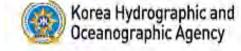














3.4 Global Clients































EASTERN MEDITERRANEAN MARITIME LIMITED













CMA CGM









RoyalCaribbean









SWIRE PACIFIC











Chevron































































3.5 Our Greek Clients

Currently, we're serving 60



Over 10 years, we've supported 175

Greek Clients

(including Reinsurance)

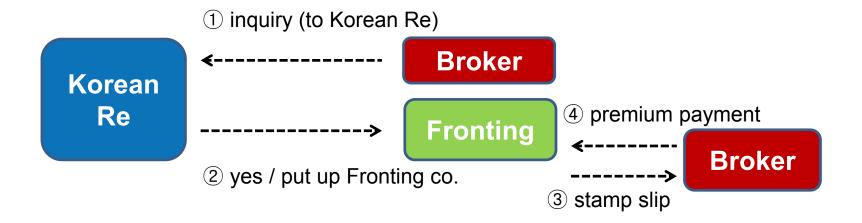


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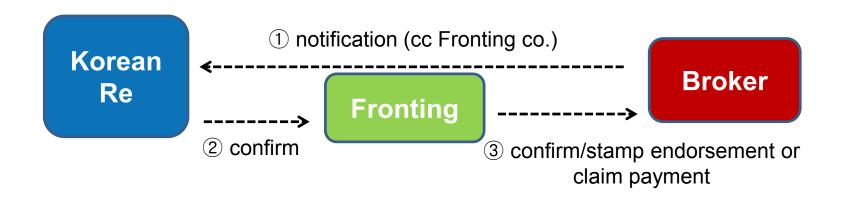
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4.1 Fronting Arrangements

Underwriting Decision (by Korean Re)

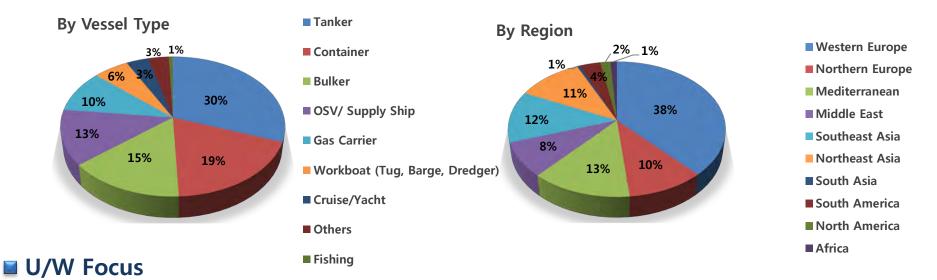


Endorsements, Claims (copy Fronting co.)



4.2 Marine Hull

Portfolio by Vessel Type and Region



U/W Capacity	US\$ 50M (Shipbuilding) / US\$ 30M (H&M, IV, War, MII etc)
Exclusion	DTV worded risksRoRo vessels
Risks we like	 Packaged(along with IV, War, LOH etc) risks Favorable Loss/PSC record Gas Carriers, Tankers, Mega-yachts, OSVs, Dredgers Builder's risks with JH143 report(C or above)

4.3 Basic Principle

✓ Marine Hull

- We can quote or follow
- We write Navigating risks for OSV's, Tankers, LNG's, Yachts, etc. and Shipbuilding risks.
- Target risks subject to stringent third party inspections.
- Port State Control Deficiency ratio matters especially in the context of MLC compliance.
- Strong business relationship with global/local brokers around the globe



4.4 Why Korean Re?





week

Prompt Feedback: within

Cherish long-term relationship: more than



We help diversify your global market:

Korea's Sovereign Rating S&P AA



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Vessel (IMO, Type)	Vale Indonesia (9575474, Bulk Ore Carrier)	
Date of Loss	06.Sep.2013	
Share (%)	32.5	
Loss info.	Bottom touch	
Written loss of Korean Re (USD)	6,337,000	

Ponta Da Madeira(Brazil) on 6th Sep 13 (Original claim amount : USD 19.5 mil)



Damaged view of both side shell plates



Damaged part of Water Ballast Tank No.7

Vessel (IMO, Type)	Vale Beijing (9575448, Bulk Ore Carrier)	
Date of Loss	03.Dec.2011	
Share (%)	32.5	
Loss info.	Damage to Water Ballast tank	
Written loss of Korean Re (USD)	9,553,000	

Crack and deformed water ballast tank no.7 at Ponta Da Madeira, Brazil (Original claim amount : USD 37.6 mil)





Vessel (IMO, Type)	Asian Empire (9176606, Vehicle Carrier)	
Date of Loss	06.Apr.2014	
Share (%)	5 (Marine Hull, Marine Cargo)	
Loss info.	Fire on the Deck No. 7	
Written loss of Korean Re (USD)	4,643,000 (Marine Hull: 143K, Marine Cargo: 4.5M)	

Fire in Car Hold and subsequently extending to the accommodation area
 (Original claim amount : USD 92.8 mil- Marine Hull: 2.8M, Marine Cargo: 90M)



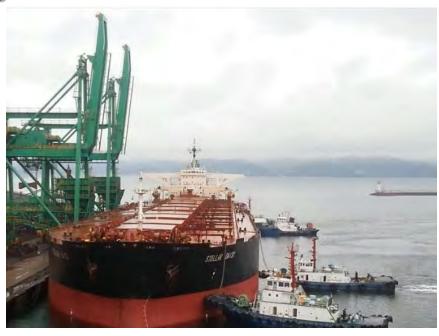


Vessel (IMO, Type)	Pacific Carrier (8417637, Bulk Carrier)
Date of Loss	14th.Dec.2011
Share (%)	80.3
Loss info.	Collision
Written loss of Korean Re (USD)	50,910,000

Collision with M.V "Hyundai Confidence" off Galdo, Tongyeong, Korea after followed by Typhoon loss- sinking. (Original claim amount : USD 63.4 mil)

✓ Major Claim – Polaris Shipping





Vessel (IMO, Type)	Stellar Daisy (9038725, Bulk Ore Carrier)	
Date of Loss	31st.Mar.2017	
Share (%)	88	
Loss info.	Sinking	
Written loss of Korean Re (USD)	35,200,000	

 [▷] Alleged Sinking at South Atlantic Ocean During Sailing from GIT, Brazil to Qingdao, China. (Original claim amount : USD 40 mil)

OVERSEA CLAIM – 1 (Greek)





Vessel (IMO, Type)	Citius (9398694, Bulk Carrier)
Date of Loss	17.Dec.2016
Share (%)	7
Loss info.	Grounding
Written loss of Korean Re (USD)	918,000

OVERSEA CLAIM – 2 (Greek)





Vessel (IMO, Type)	Alpha Action (9284881, Bulk Carrier)
Date of Loss	27.Jul.2017
Share (%)	14.7
Loss info.	Collision with Wan Hai 307 near Oshima Port
Written loss of Korean Re (USD)	4,949,000

Collision with Wan Hai 307 near Oshima Port(Original claim amount : USD 33 mil)

OVERSEA CLAIM – 3 (Non-Greek)

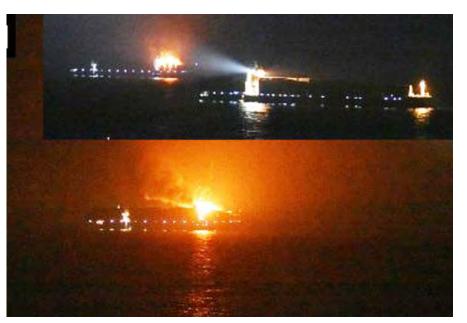




Vessel (IMO, Type)	Sanchi (9356608, Crude Oil Tanker)
Date of Loss	06 Jan. 2018
Share (%)	12.5
Loss info.	Collision with CF Crystal
Written loss of Korean Re (EUR)	4,464,819

Collision with CF Crystal 160 Nm east to Shanghai and sinking in the aftermath of accident (Original claim amount : EUR 35.7 mil)

OVERSEA CLAIM – 4 (Non-Greek)





Vessel (IMO, Type)	Maersk Honam (9784271, Container)
Date of Loss	07.Mar.2018
Share (%)	1.66
Loss info.	Fire in the cargo hold
Written loss of Korean Re (USD)	ТВА

Thank you!