

Above the horizon

Innovation in marine transportation

1. What are the WIGs and how is it different from traditional forms of maritime transport?



Feb. 2015





I. WINGSHIP

■ WINGSHIP Features & Advantages #3 : Broadcast on Discovery Channel

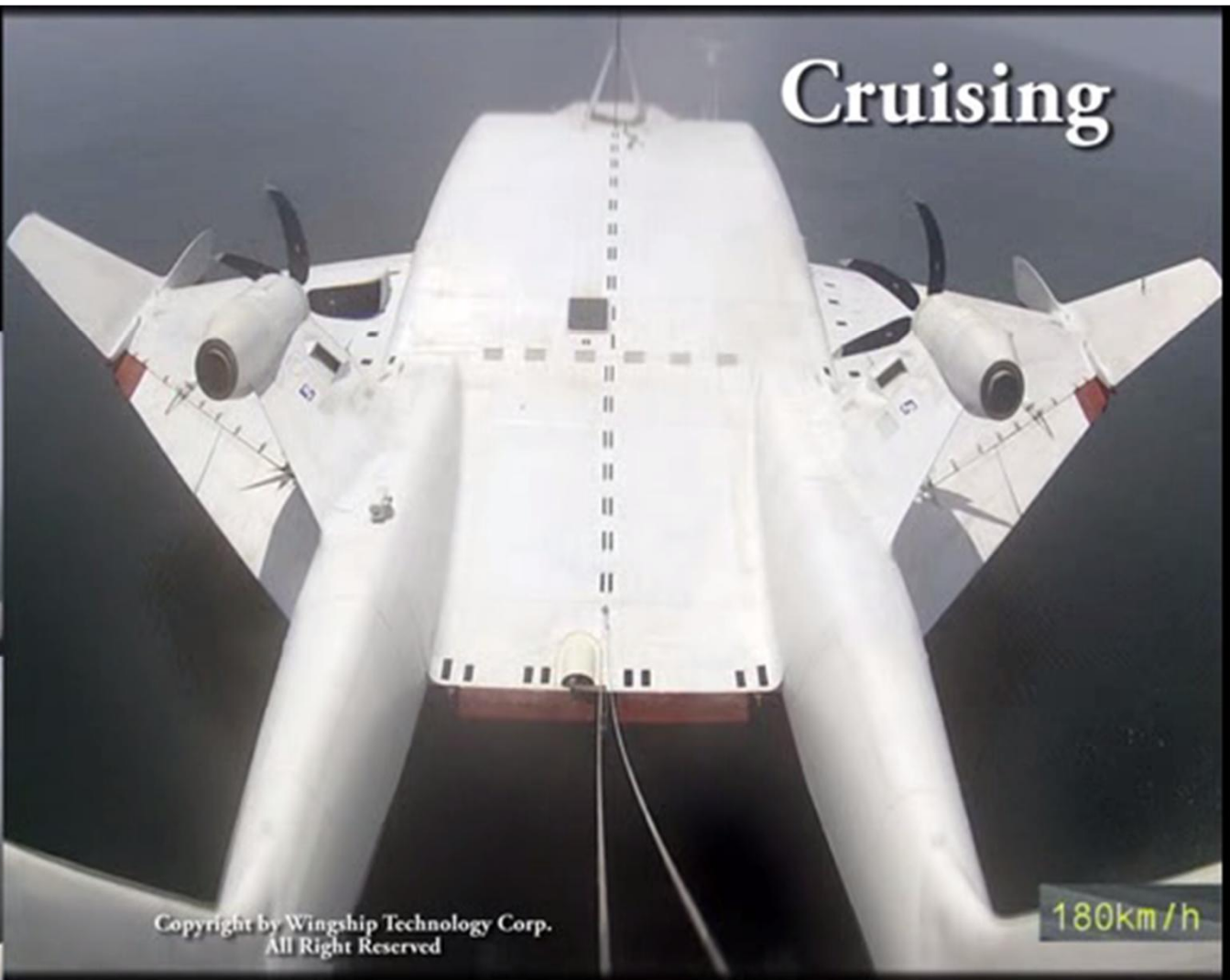


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 - Excellence of WINGSHIP
 - Easy Docking of WINGSHIP
- ❖ Safety
 - Rules & Regulations
 - Collision Avoidance





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180km/h



I. WINGSHIP

■ Development of WIG craft #1 : Principle in Nature



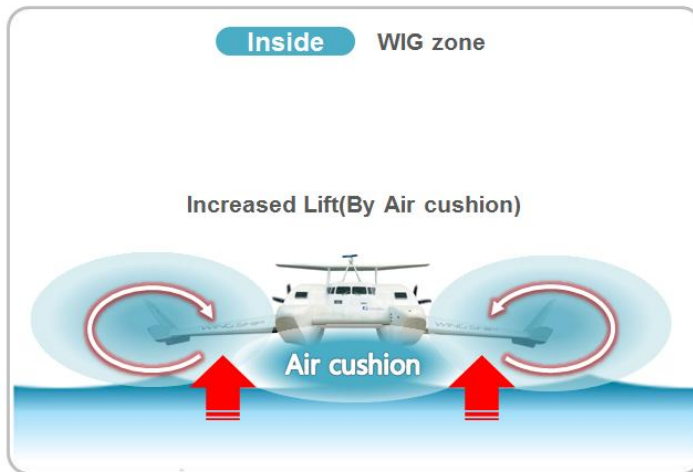


I. WINGSHIP

Development of WIG craft #2-1 : Take advantage of Ground-effect

Wing-In-Ground(WIG) effect

When the ground and an object approaches closely, the pressure is occurred by the captured air between the ground and the object. This pressure affects like as an air cushion to the corresponding object. So, the object acquires higher lift force & lower drag force with this Wing-In-Ground effect.



The air cushion which generated between the wing and the surface is acting as the force to lift up the wing & hull


Efficiency Increased

Efficiency

The vortex which generated at the tip of the wing presses the upper part of the wing thus decreases efficiency.


Efficiency Decreased



I. WINGSHIP

■ WINGSHIP WSH-500 : Operation





I. WINGSHIP

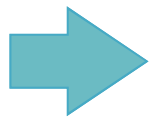
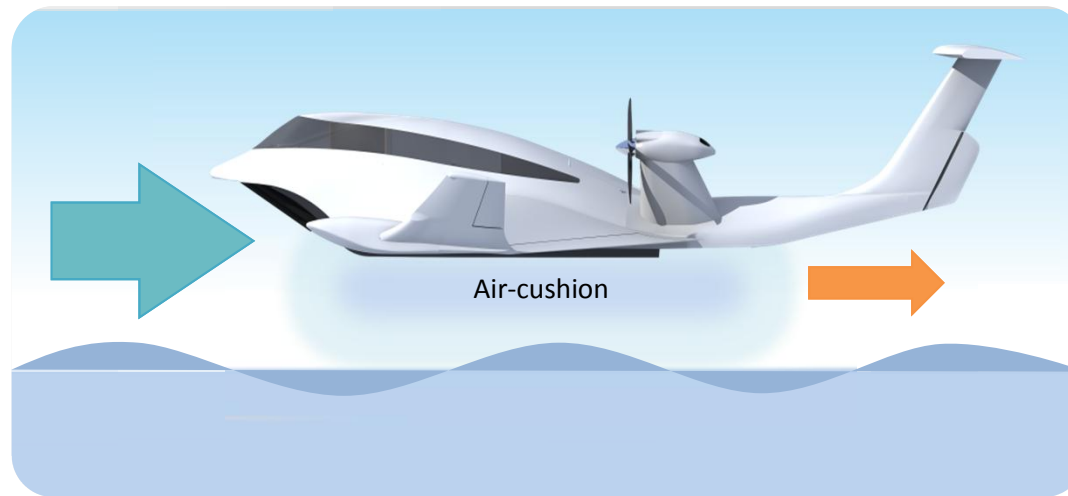
■ WINGSHIP WSH-500 : Operation





I. WINGSHIP

■ Development of WIG craft #2-2 : Air cushion effect



In-flow



Out-flow

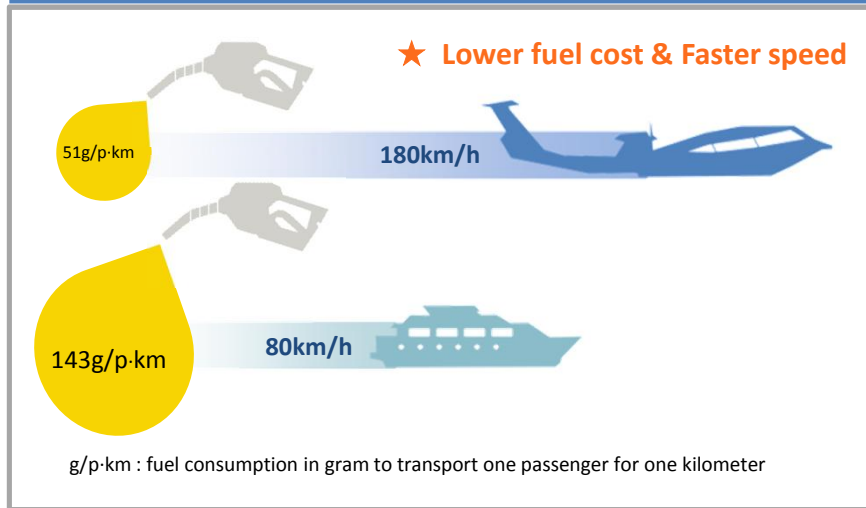
Because of the design of WINGSHIP series (such as reverse delta-wing), there is an imbalance between the in & out airflow. This imbalance of airflow makes the air cushion between the WINGSHIP series & the sea surface.



I. WINGSHIP

WINGSHIP Features & Advantages #1

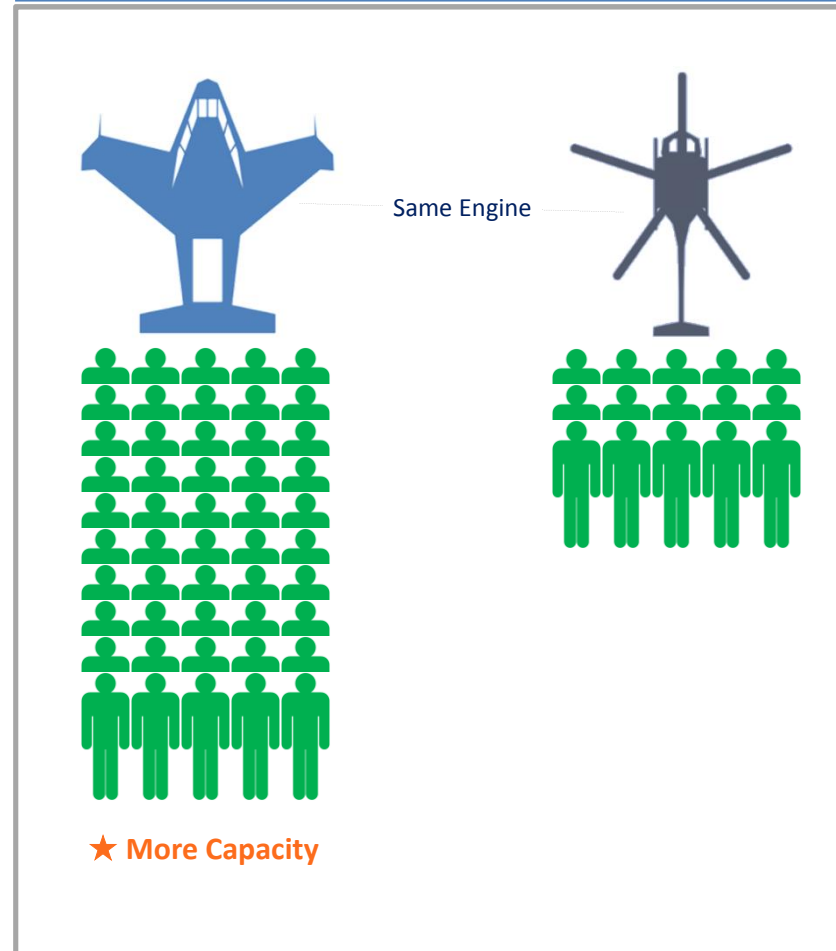
Speed & Fuel Consumption



Price per seat



Payload





I. WINGSHIP

■ WINGSHIP WSH-500 vs Jet Foil



<WSH-500>

- Same operation profile as Jet-foil
- 3 times faster than Jetfoil
- 3 times smaller fuel consumption
- 3 times smaller ship cost
- <http://www.youtube.com/watch?v=Odd8iYYLpRg>

<Jet foil / Boeing-929>

- Currently operating in Hong Kong-Macau.
- 28 crafts are operating in Japan.
- Refer to page 47, Reference(3).
- <http://www.youtube.com/watch?v=R8miHWweO6E>




I. WINGSHIP

■ WINGSHIP Features & Advantages #2-2 : “3 Cube Innovation”



Three times cheaper price
and no additional infrastructure

3 3
3



Three times less fuel consumption
and CO₂ emission



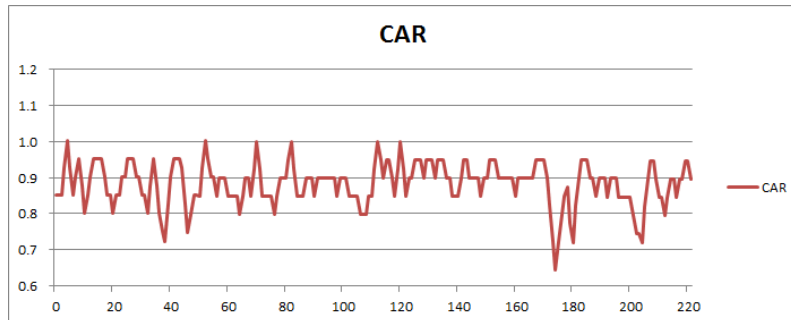
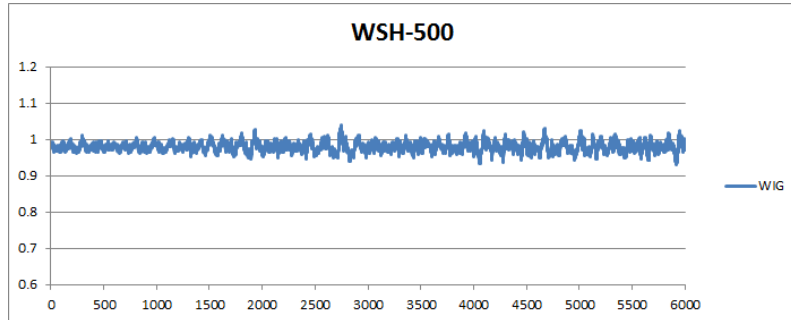
Three times faster speed
: 100+ knots

※ Comparison to High Speed Craft(HSC)



I. WINGSHIP

WINGSHIP WSH-500 : Passenger Comfort



WINGSHIP Series (WSH-500)



Specification of WSH-500

- Dimension 29m · 27m · 7m (Length · Width · Height)
- Cruising Speed 180km/h
- Cruising Altitude 2~5 m
- Materials Aluminum alloy
- Payload 50 persons
- Max. Range 1,000km
- Operation Limit
 - Normal Take-off/Landing Sea State 3
 - Extreme Landing Sea State 4
- Propulsion 1,400HP × 2EA Turboprop
- Fuel Consumption 460kg/h
- Certificate Lloyd's Register
- Design Life 20 years

*Above specification is the standard figures for the basic WSH-500 model. This data could be changed by buyer's requirements.

*Watch the WINGSHIP Operation in Youtube: <http://www.youtube.com/watch?v=Odd8iYYLpRg>



I. WINGSHIP

WINGSHIP Features & Advantages #5 : Progress of WSH-500



2009.12	Completion of the design
2010.05	Contract for safety certificate with Lloyd's Register
2010.10	Aluminum Cutting
2011.09	Completion of ship-building
2011.12	Launching & 1 st Sea-trial (Take-off & Landing)
2013.04	Approval of ISM code by Korea Government
2013.07	2 nd Sea trial (Cruising & Turning)
2013.11	Marine Design Appraisal – Lloyd's Register

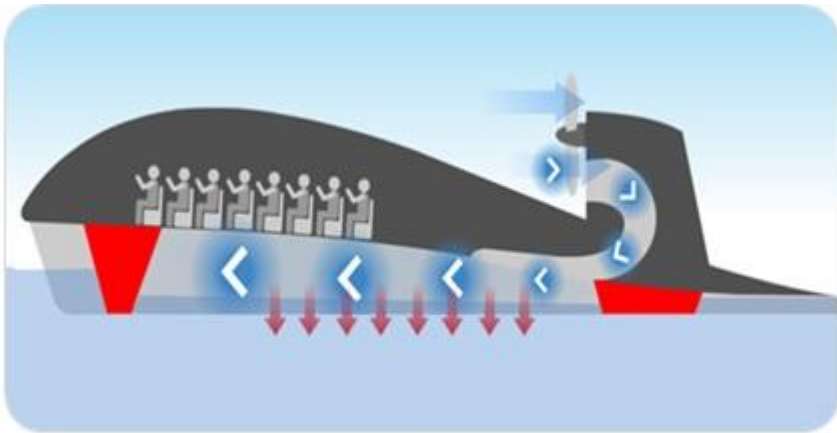




I. WINGSHIP

WINGSHIP Features & Advantages #6 : Excellence of WINGSHIP

Hoverwing Technology



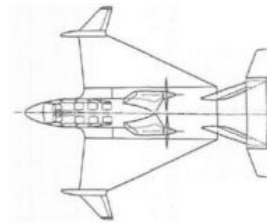
Air Cushion Off



Air Cushion On

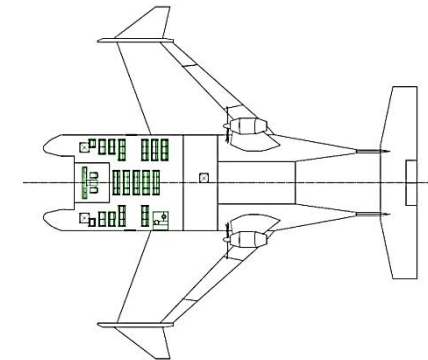
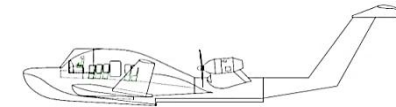
Largest Commercialization Model

Airfish-8



17m

WSH-500



29m

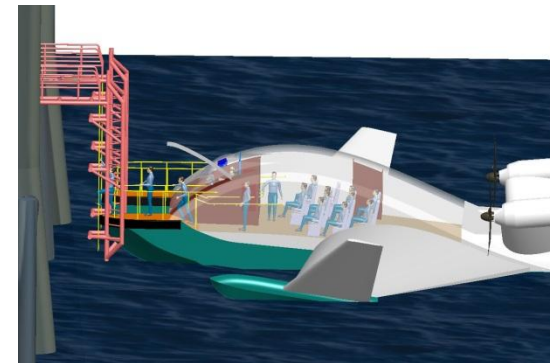


I. WINGSHIP

WINGSHIP Features & Advantages #7 : Easy Docking of WINGSHIP



<Docking facility in Korea ; with WSH-500>



<Solutions for offshore transshipment>

SAFETY

- I. Rules & Regulations
- II. Collision Avoidance





I. WINGSHIP

■ WINGSHIP WSH-500





I. WINGSHIP

■ WINGSHIP WSH-500





I. WINGSHIP

■ WINGSHIP WSH-500





I. WINGSHIP

■ WINGSHIP WSH-500





I. WINGSHIP

■ WINGSHIP WSH-500





I. WINGSHIP

■ WINGSHIP WSH-500





I. WINGSHIP

■ WINGSHIP WSH-500





I. WINGSHIP

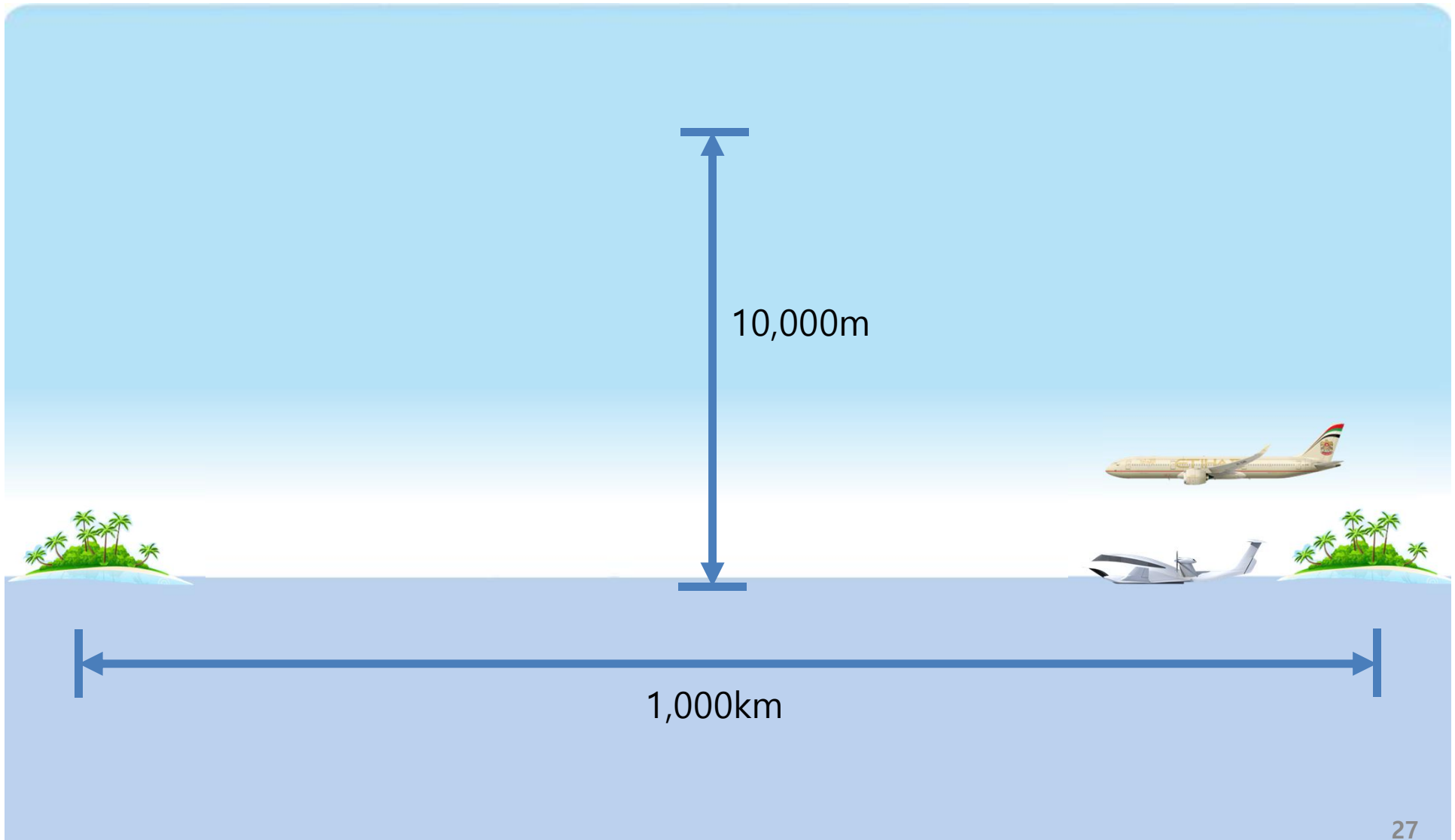
■ WINGSHIP WSH-500 : Operation





I. WINGSHIP

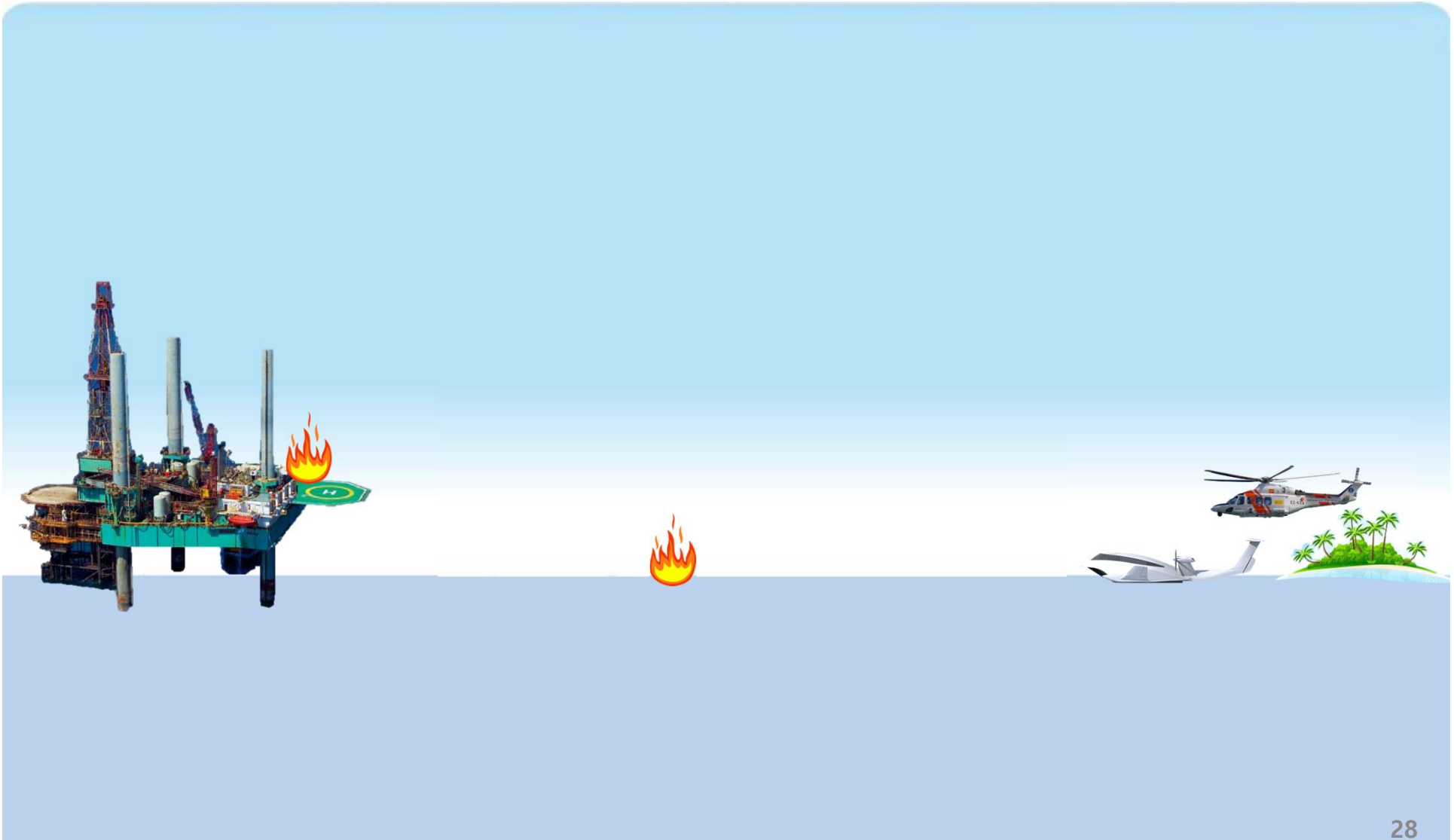
■ WINGSHIP WSH-500 vs Aircraft





I. WINGSHIP

■ WINGSHIP WSH-500 vs Helicopter





I. WINGSHIP

■ Development of WIG craft #3 : Rules & Regulations

General Regulations for Ship

SOLAS 1974	The International Convention for the Safety of Life at Sea, 1974
Resolution MSC.48(66)	The International Life-Saving Appliance(LSA) Code
Resolution A.741(18)	International Safety Management(ISM) Code
COLREGs	International Regulations for Preventing Collisions at Sea

Specific Regulations for WIG craft

MSC/Circ.1054	Interim Guidelines for Wing-In-Ground (WIG) craft
MSC/Circ.1162	General Principles and Recommendations for knowledge, skills and training for officers on Wing-In-Ground (WIG) craft operating in both displacement and ground effect modes

National Regulations for WIG craft

South Korea	Guidance for WIG Ships(Wing-In-Ground Effect Ships) 2012
Singapore	Merchant Shipping (Wing-In-Ground Craft) Regulations 2010



IV. Reference(1)

Certificate of Lloyd's Register for WSH-500

Lloyd's Register
Fairplay

Lloyd's Register - Fairplay Ltd, Lombard House, 3 Princess Way, Redhill, Surrey, RH1 1UP, UK
 Telephone : +44 1737 379043 Fax : +44 1737 379040
 Email : data-audit@lrfairplay.com Web: http://www.lrfairplay.com

TO: Son, Haeng-Yun [haeng-yun.son@lr.org]	DATE: 11 May 2010
COMPANY: LR Ulsan	
OUR REF: LRF/ 21559	
IMO RESOLUTION A.600 (15)	
We refer to your request, please be advised that the LR/IMO No for the vessel	

Builder (Yard No) Wingship Heavy Industries Corp-Gunsan

IMO Number **9590436**

Year of Completion 2011

Ships current name "WINGSHIP WSH-500"

1) Please note that an IMO Ship Number is assigned for a specific hull number and once issued, will not be subject to any alteration. If the type of ship being built under that hull number is changed or the dimensions changed significantly, then this office should be notified for clarification regarding usage of existing IMO number.
 2) If the vessel name given for a hull number is changed during construction then, to avoid any confusion, this office should be notified immediately.
 3) If the shipbuilding contract for which an IMO number has been issued for a specific hull number is cancelled by an owner, then that IMO number may become invalid. Please notify this office for clarification and approval regarding the usage of this existing IMO number. The former IMO number is not transferable to another hull at the shipyard.

Best Regards

New Construction Section
 Lloyd's Register - Fairplay Ltd

The information received to assign an IMO Number has been obtained from sources believed to be reliable, but Lloyd's Register - Fairplay Ltd. is unable to guarantee the accuracy of all details. Neither Lloyd's Register - Fairplay Ltd. nor any of its officers, employees or agents shall be responsible or liable in negligence or otherwise howsoever in respect of any inaccuracy contained herein or omission here from. The records of merchant ships registered in some countries are incomplete due to lack of official information. Lloyd's Register - Fairplay Ltd. does not accept liability for any inaccuracies.

Document no: RT5/SSC/13.1125
 Issue number: 1
 Page 1 of 21

Lloyd's Register Marine Design Appraisal Document

Lloyd's Register EMEA
 Rotterdam Technical Support Office
 K.P. van der Mandelelaan 41a
 3062 MB Rotterdam
 The Netherlands
 Tel: +31 (0) 10 2248 522 Fax: +31 (0) 10 2018 451

Date: 01 November 2013
 Please quote the document number on all future communications

Wing Ship Technology Corp., Yard No. WSH-500
29m Type A WIG craft
Main Construction Plans

1. The Document(s) listed in paragraph 1 of the appendix have been examined for compliance with the relevant applicable sections of the Regulations and Provisional Rules for the Classification of Wing in Ground Effect Craft - July 2008, Notices 1 to 3 included, Volume 4, Part 1, Chapter 2, Section 1 - Volume 4, Part 2, Chapter 1, Section 1.2 - Volume 5, Part 1, Chapter 2, Section 1-5 - Volume 5, Part 2, Chapter 1, Section 2 - Volume 6, Part 2, Chapter 2, Section 1.3, and have been given the appraisal status as indicated, in accordance with the following conditions:-

2. Notes about the appraisal

2.1 It is understood that this first of type WIG effect craft is a prototype craft which has been designed for the following hull class notation:

#100A1 WIG MCH Type A Passenger
WTL1.2/WEL2.5, WSC15

2.2 The examination was based on the following values for the main dimensions:

Length Overall	m	29.00
Length Waterline	m	18.19
Draught	m	0.757
Breadth	m	27.20
Maximum Take-Off Weight	tonnes	18.35
Normal Operational Speed	knots	95
Maximum Service Speed	knots	105
Maximum Take-Off Speed	knots	82
Maximum Landing Speed	knots	85
Maximum Taxiing Speed	knots	10
Normal Operating Altitude at Trailing Edge	m	2.05

FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPENDS ON SATISFACTORY SURVEY AND TESTING

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 is a subsidiary of Lloyd's Register Group Limited

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Form 6438MAR (2012.10)



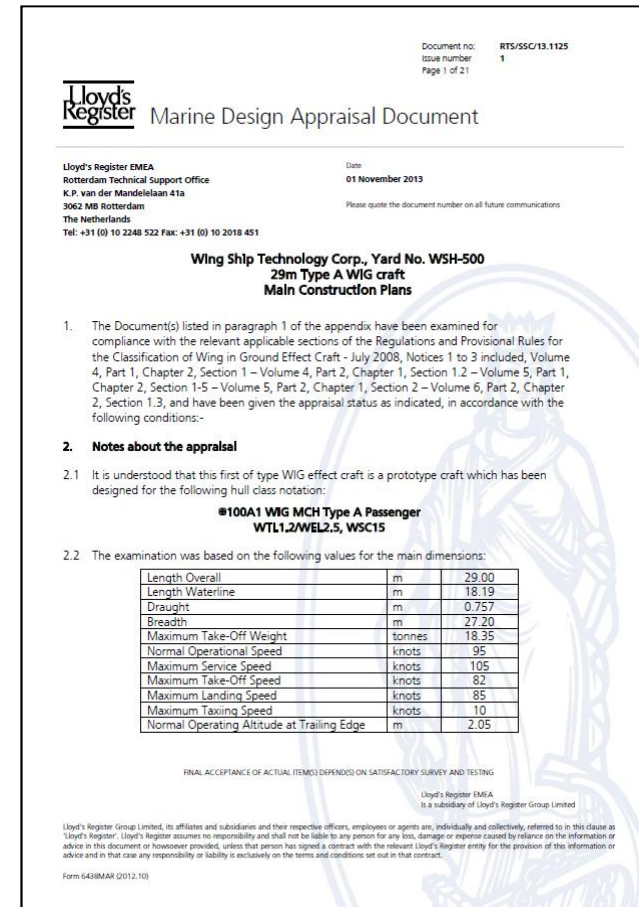
I. WINGSHIP

WINGSHIP Features & Advantages #8 : Safety

CERTIFICATION		
Item	Certificate authority	NOTE
Structure	Lloyd's Register	RTS/SSC/13.1125
Propulsion System	Transport Canada	FAA, EASA
Stability	Lloyd's Register	RTS/SSC/13.1125
Fire Safety System	Korean Register	GSNOC-0120-13
Life Saving Appliances	Korean Register	GSNOC-0120-13
Communication & Navigation System	Korean Register	GSNOC-0120-13
Safety Management System	Korean Register	ISM, SSC 6200-230-2013

SEA TRIAL RECORDS		
Item	Time(hour)	Distance(km)
1st (2011)	37 h	161 km
2nd (2013)	150 h	1388 km
Total	187 h	1549 km

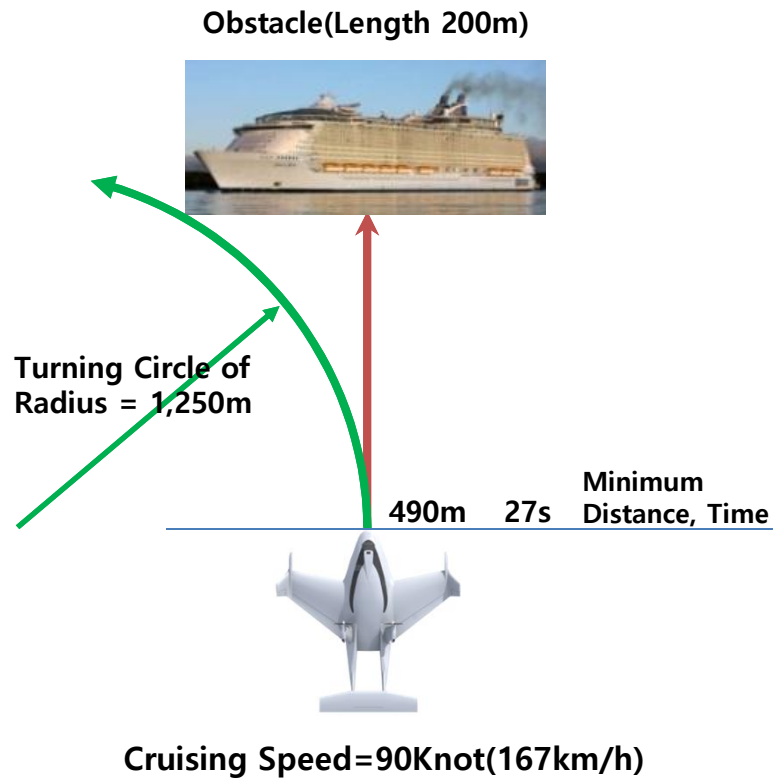
※ No accident occurred during the sea trial.





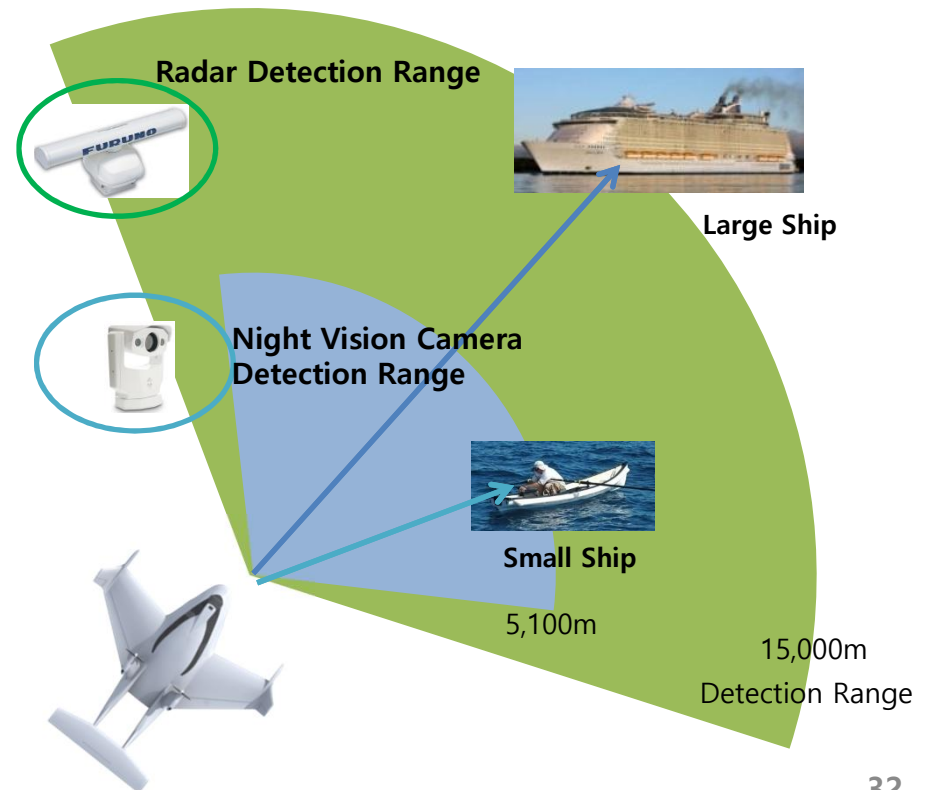
Turning Capability

1. Turning Capability



2. Hong Kong HSC Detection Criteria

Item	Criteria	Description
Req. Minimum Detection Range	1,000m	
WSH-500	5,100m	Satisfies the requirement

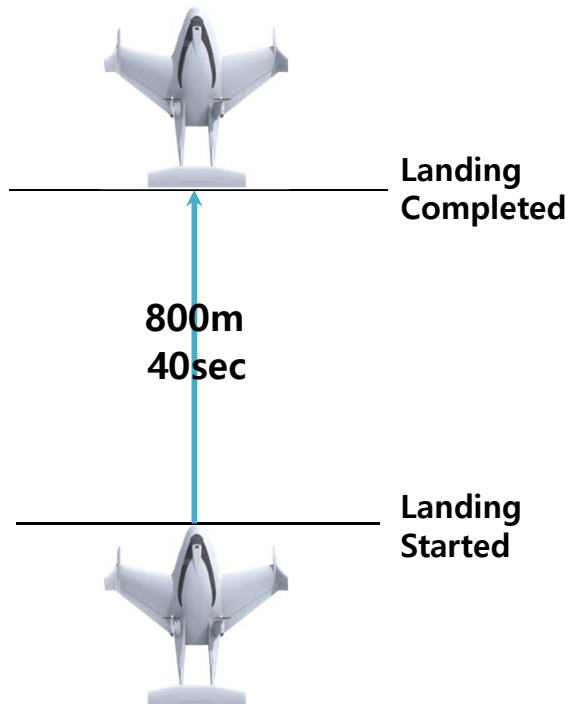




Landing Capability

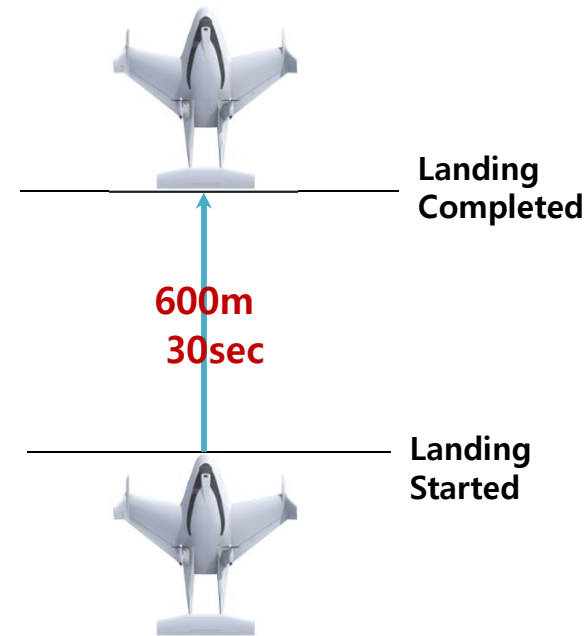
1. Normal Landing

Item	Measurement
Landing Speed	83knots
Landing Distance	800m
Time	40sec



2. Emergency Landing

Item	Measurement
Landing Speed	82knots
Landing Distance	600m
Time	30sec



Above the horizon

Innovation in marine transportation

2. The challenges and the opportunities of WIGs



Feb. 2015



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I. WINGSHIP

■ WINGSHIP Features & Advantages #9 : SWOT analysis

STRENGTH

- 3 times faster than HSC
- High fuel efficiency
- Comfort riding
- Guarantee of safety with LR's cert.
 - Certificate of Lloyd's Register(U.K.)
 - Covered by Insurance program

WEAKNESS

- Low level of awareness
- No former operating records
- Risk of infant business

OPPORTUNITY

- High oil price
- Increasing demand of marine traffic
- IMO guideline
- Demand for green-tech vehicle
- Leader of the market by preoccupation

THREAT

- Containment of existing liners
- Depression of ship-building business
- Global financial crisis
- Tough money-market condition



Suitability of the WIG development in Republic of Korea

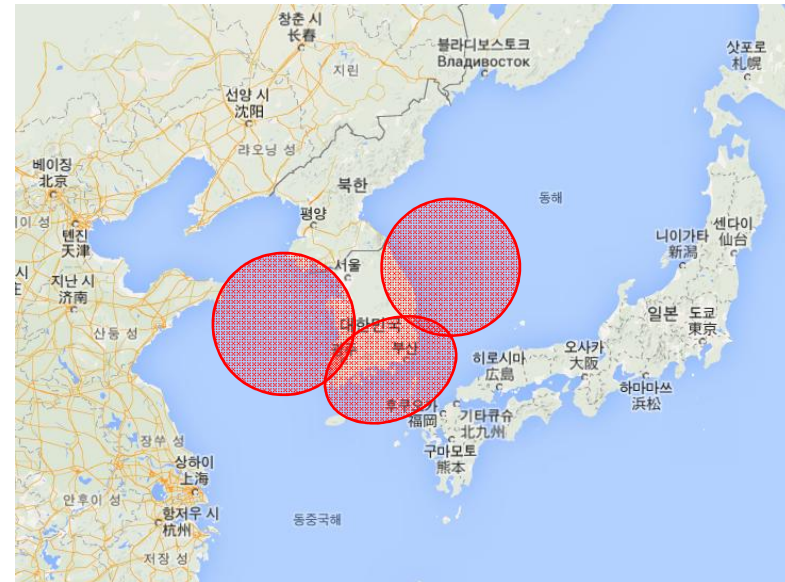
Geopolitical Factor

Geographic

- Korean peninsula is surrounded by sea and is composed by three coastlines.
- Marine life, industry, defense have been historically the main national issue.

Politics

- Korea is located in the center of East Asia countries.
- Korean peninsula is a gate through land(China, Russia) and sea(Japan).
- Yellow(West) Sea is shared with China.
- East Sea is shared with Japan.
- South Sea is shared with China and Japan.
- North border is faced with North Korea.
- Political tension between the countries of East Asia is always formed to be keen on developing technology, especially for defense.





Suitability of the WIG development in Republic of Korea

Infrastructure

• Best shipbuilding knowhow

▪ Leader of shipbuilding technology

- Hyundai Heavy Industries
- Daewoo Shipbuilding & Marine Engineering
- Samsung Heavy Industries
- Hanjin Heavy Industries and Construction

▪ High quality ship equipment manufacturers

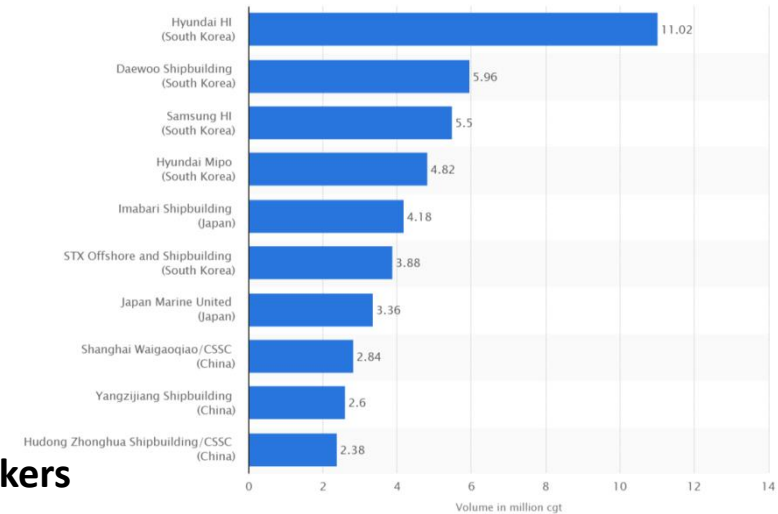
• Highly qualified people

▪ Engineers, production staff and well-trained workers

▪ Depression of shipbuilding industry

▪ More than 20 marine engineering institutions in universities and civil research institutes.

- Seoul National University
- Inha University
- Pusan National University
- Kunsan National University
- Korea Institute of Ocean Science & Technology
- Korea Research Institute of Ships and Ocean Engineering
- Korea Marine Equipment Research Institute
- Etc.





Suitability of the WIG development in Republic of Korea

WIG craft development history in Korea

Republic of Korea



Model	1 seater
Period	1998
Des.	KRISO Successful Sea trial
Model	GalMaeGi No.4
Period	2001
Des.	KRISO 4 seater leisure
Model	HaeNaRae-X1
Period	2007
Des.	KRISO 20 seater 1/2 prototype model



Model	WSH-50
Period	2013
Description	Wing Ship Technology Corp. 50 passenger commercial



Germany



Model	X-114
Period	1974
Des.	Dev. by RFB Military
Model	Airfish 8
Period	2001년
Des.	Dev. by Fischer Flugmechanik 8 passenger commercial
Model	HW-2VT
Period	2001년
Des.	Dev. by Fischer Flugmechanik 2 seater Hoverwing prototype

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II. WINGSHIP series market analysis

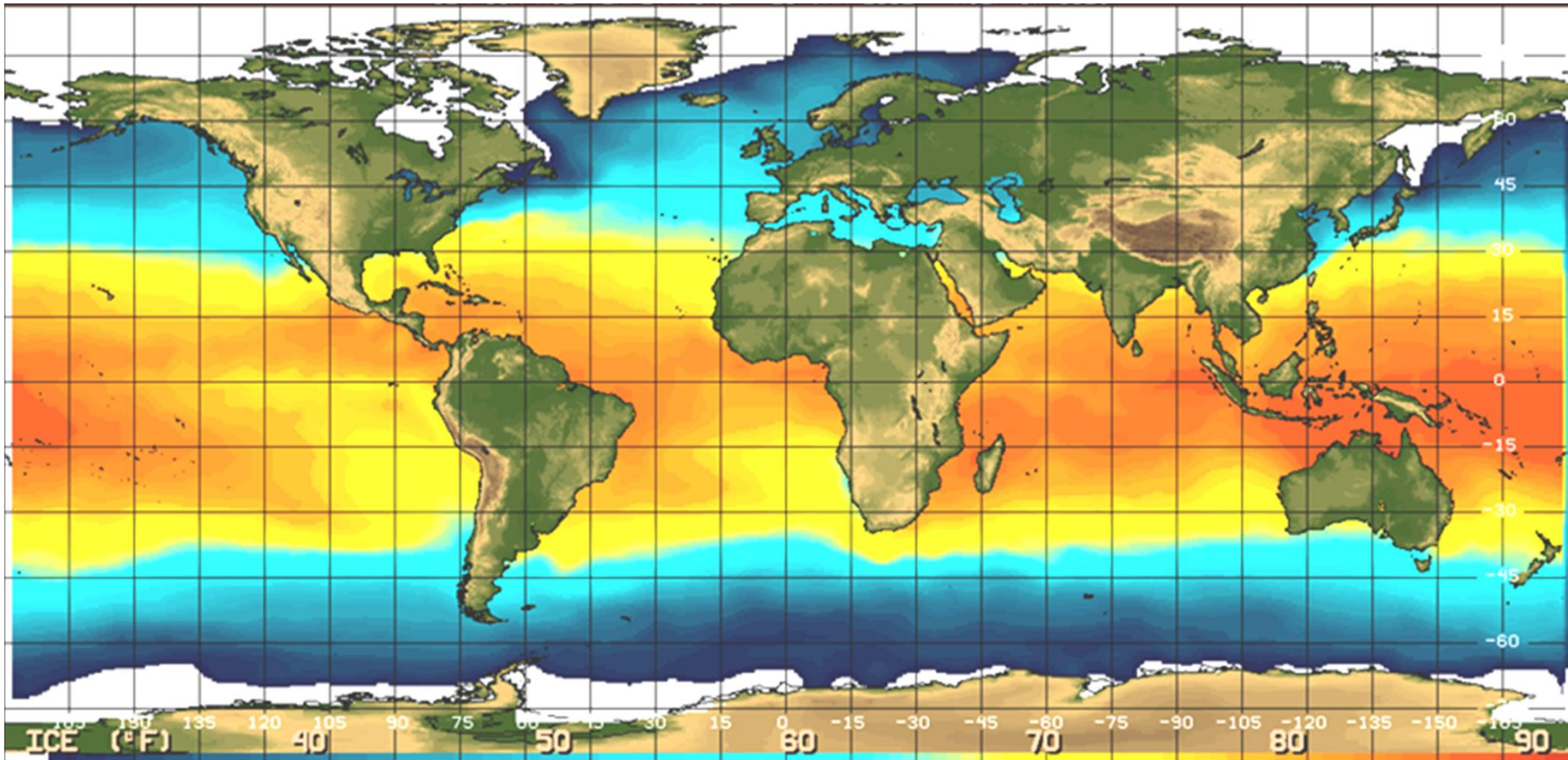
- ❖ Market Distribution
- ❖ Market Analysis
 - Market Volume
 - Offshore Supply Vessel
 - Ripple effect #1
 - Ripple effect #2
 - Ferry
 - Indonesia(example) Cargo
 - Cargo
 - Superyacht
 - Others





II. WINGSHIP series market analysis

Market Distribution



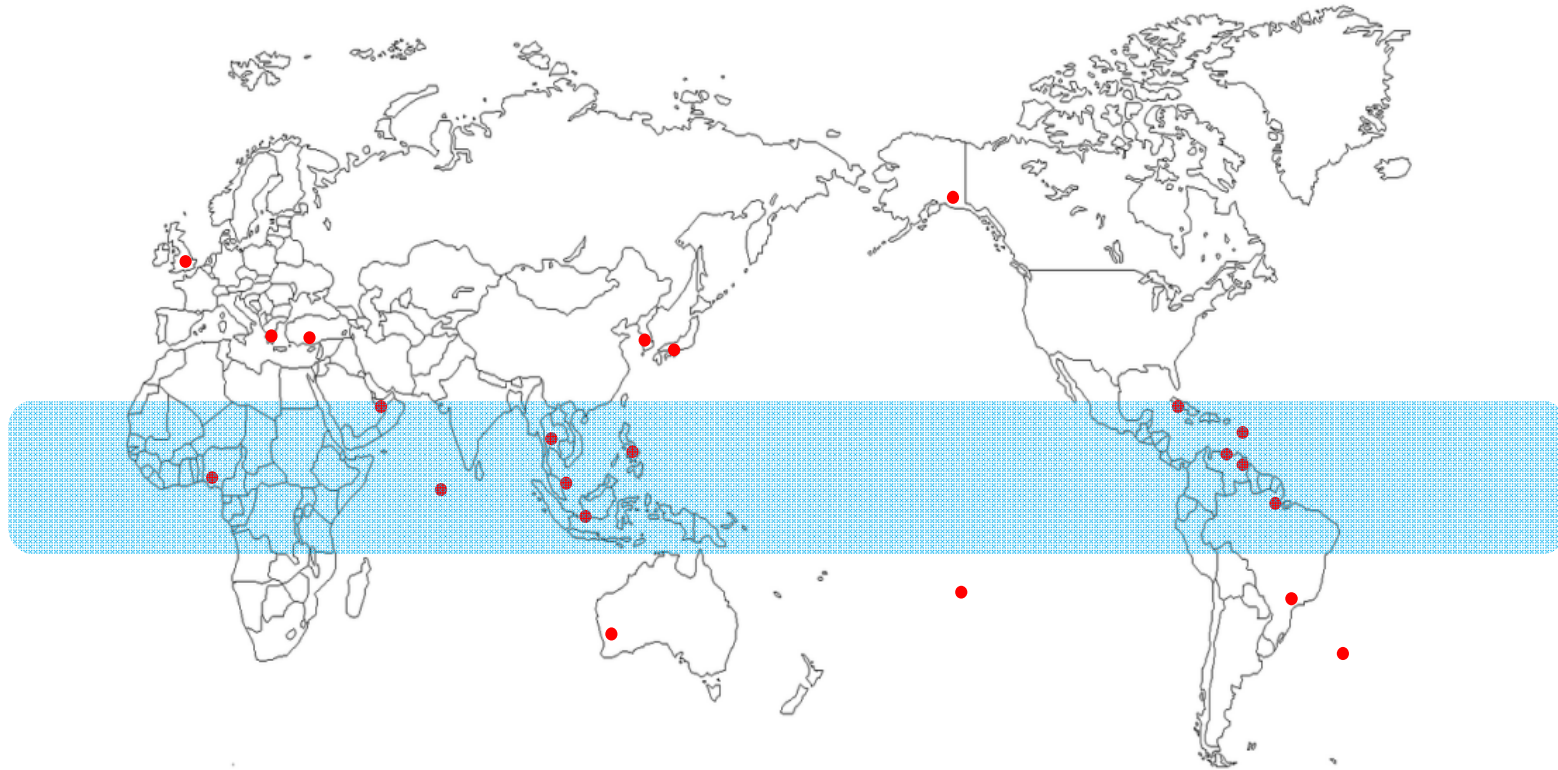
Potential Customers of WINGSHIP
Mike Derrett, 2014

※ Mike Derrett: Consultant of boat and marine industries



II. WINGSHIP series market analysis

Market Distribution



Customers of WINGSHIP, 2014



II. WINGSHIP series market analysis

Market Analysis #1 : Market Volume

Ferry

- **Replacement demands of HSCs**
 - over 1,625 crafts : in operation
 - **More than 538 ships are older than 20 years**
 - The size of Europe & Asia market is over 78% of the world market.
- **Absorb specific demand of the aircraft**
 - Island with no airport

- Take over about 5% replacement demands of HSCs
- Total orders of ferry WINGSHIP Series
= **US\$ 900 million per year**

Market Volume

- **Total Market: US\$ 20 billion per year**
- **WINGSHIP Market: US\$ 1.05 billion per year**

Offshore Supply Vessel

- **Application for OSV**
 - about 7,200 marine plants [worldwide]
 - **Demand for supply vessel (2014-18): US\$ 24 billion**
 - about 70 crafts per year (AW-139)
 - The average distance to offshore platform is increasing.
 - WST & DSME made an agreement for partnership in global market.

- Expected market share of OSV part is about 15%
- Total orders of OSV WINGSHIP Series
= **US\$ 150 million per year**



II. WINGSHIP series market analysis

■ Market Analysis #2 : Offshore Supply Vessel



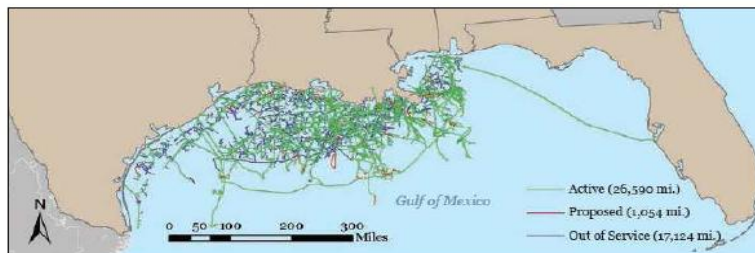
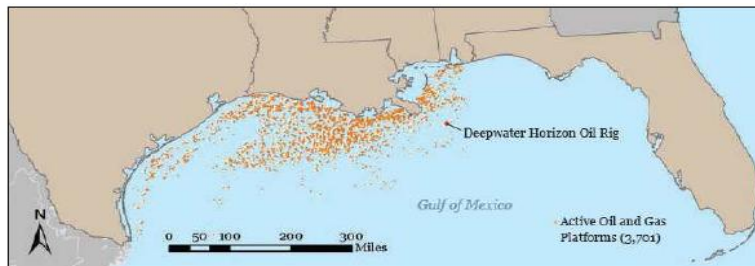


II. WINGSHIP series market analysis

Market Analysis #2 : Offshore Supply Vessel

Market volume

- about 3,701 marine plants [the gulf of MEXICO]
- about 7,200 marine plants [worldwide]
- [Demand for SV] about 70 crafts per year (AW-139)



자료 : NOAA, The GULF OF MEXICO at a GLANCE : A Second Glance, 2011.7

Competitiveness

- Increase of the average distance to offshore platform
 - Demands for high speed marine transportation are increasing dramatically.
 - WINGSHIP is the best solution.
- Limitation of conventional transportation to offshore platforms
 - WINGSHIP is incomparably fast compare to conventional Fast Crew Boat.
 - WINGSHIP is safe and efficient compare to offshore supply helicopter.
- No need for additional facilities to dock WINGSHIP
- Agreement between WST & DSME for cooperating in global offshore platform market.

Expectation

- Expected market share of OSV part is about 15%
 - Total orders of OSV WINGSHIP Series = **150million US\$ per year**



II. WINGSHIP series market analysis

Market Analysis #2 : Offshore Supply Vessel

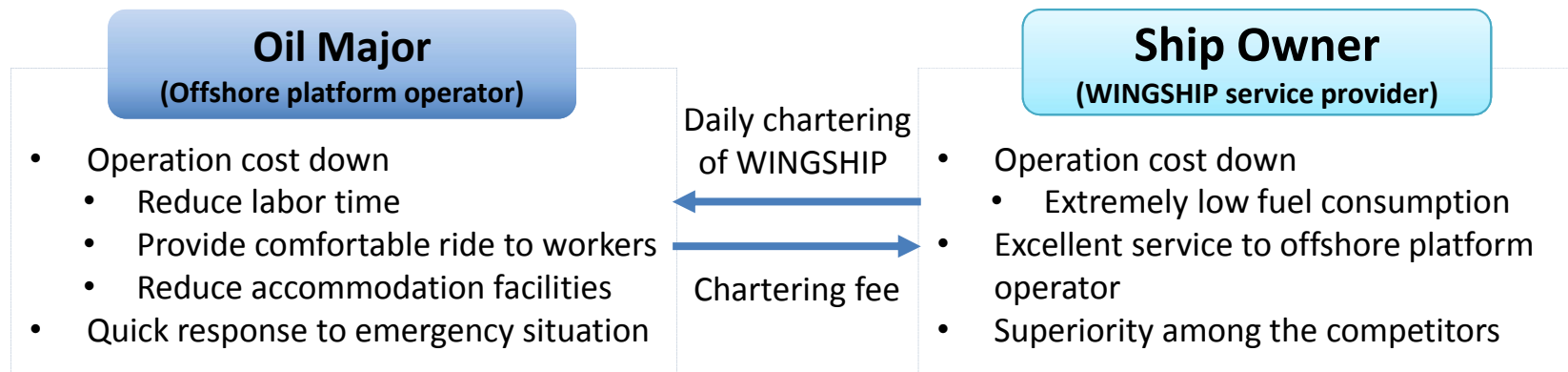
- Operation Assumption : Distance 900km / 50 people



Presentation in Malaysia

	Travel Time	Fuel	Working day
FCB	24h	10,888 L	3D
WINGSHIP	5h	3,300 L	1D

- Business Model with WINGSHIP : **WIN-WIN Strategy for both players**

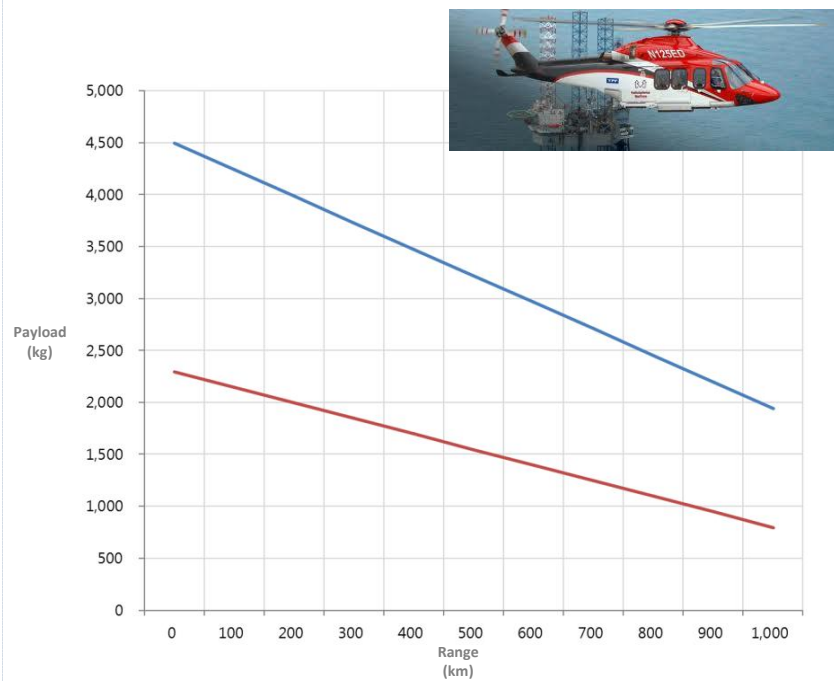




II. WINGSHIP series market analysis

Market Analysis #2 : Offshore Supply Vessel

WINGSHIP vs Helicopter

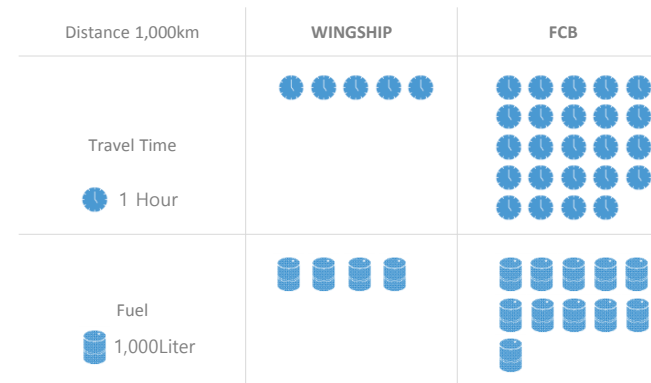


WSH-500

AW-139

Payload	4.3 ton	1.5 ton
Price	15M US\$	21M US\$
Engine	1,400HP * 2	1,500HP * 2

WINGSHIP vs Fast Crew Boat(FCB)





I. WINGSHIP

■ WINGSHIP WSH-500 vs Helicopter





II. WINGSHIP series market analysis

■ Market Analysis #2 : Offshore Supply Vessel – Ripple effect #1



<Helideck Free Platform>



II. WINGSHIP series market analysis

■ Market Analysis #2 : Offshore Supply Vessel – Ripple effect #1



<Helideck Free Platform>



II. WINGSHIP series market analysis

■ Market Analysis #2 : Offshore Supply Vessel – Ripple effect #2

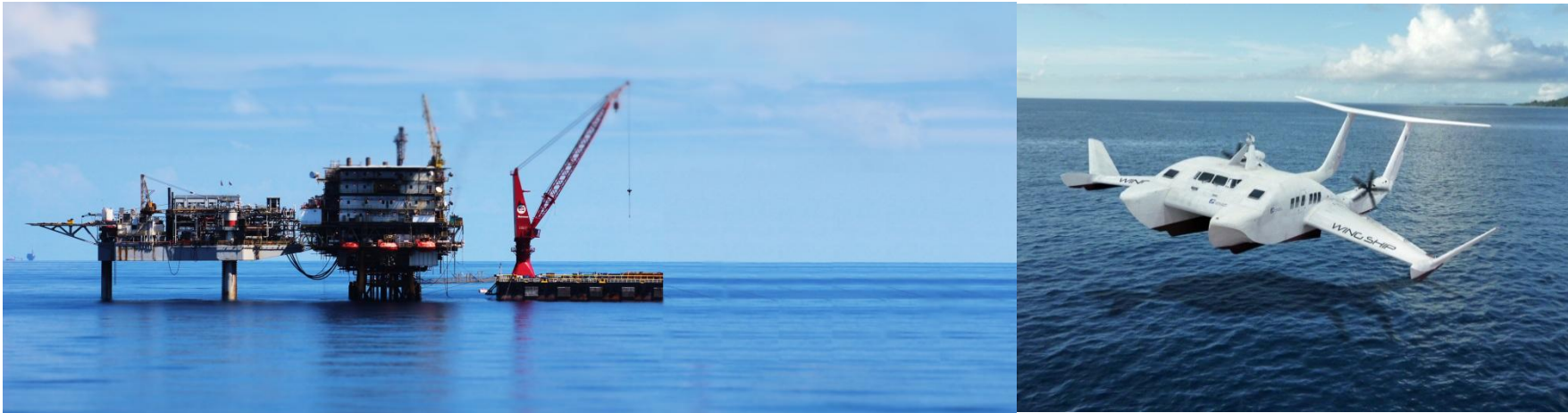


<Accommodation Free Platform>
1 day workplace



II. WINGSHIP series market analysis

■ Market Analysis #2 : Offshore Supply Vessel – Ripple effect #2



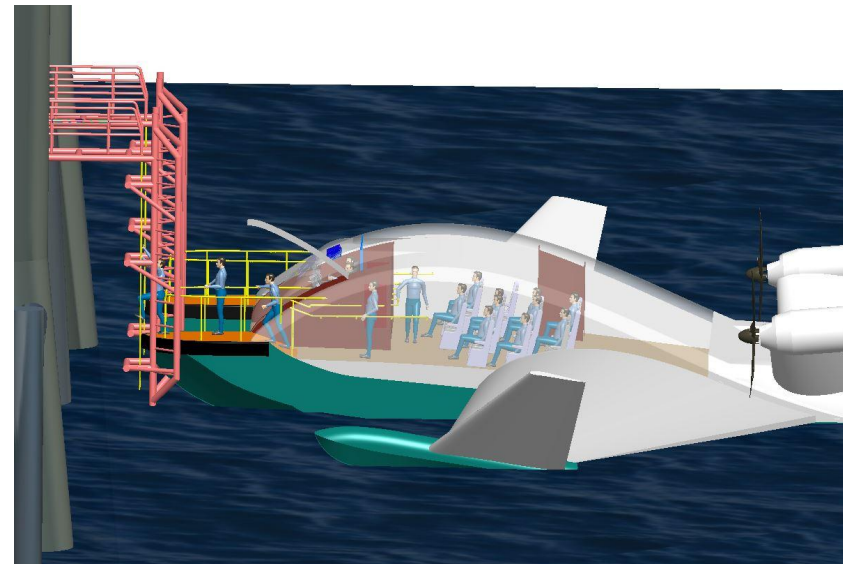
**<Accommodation Free Platform>
1 day workplace**



II. WINGSHIP series market analysis

Market Analysis #2 : Offshore Supply Vessel

	WINGSHIP facility	Helideck
Maintenance Cost	LOW	HIGH
Weight	LIGHT	HEAVY
Initial Cost	LOW	HIGH
Installation Period	SHORT	LONG
Inspection	SIMPLE	DIFFICULT
Fire Protection	UNNECESSARY	NECESSARY
Fuel Tank	UNNECESSARY	NECESSARY





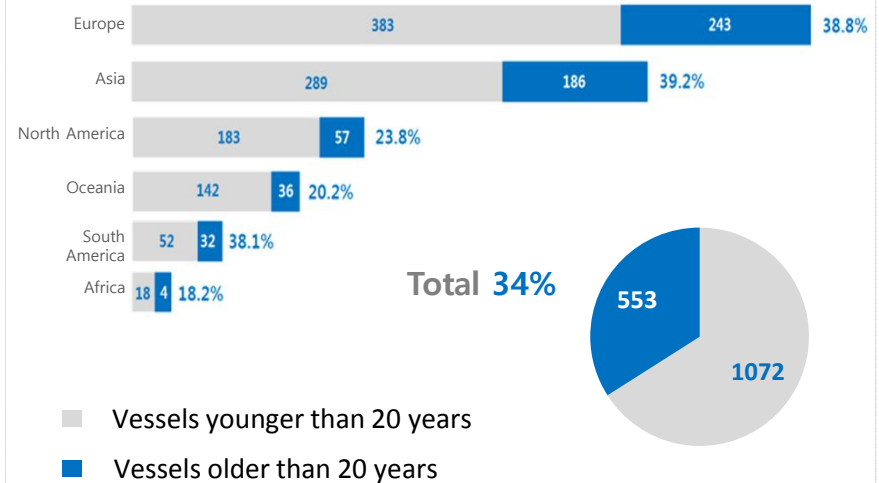
II. WINGSHIP series market analysis

Market Analysis #3 : Ferry

WINGSHIP vs High Speed Craft Ferry

	HSC	WINGSHIP	Note
Speed	80km/h	200km/h	2~3 times faster
Fuel-consumption	143g/p*km	50g/p*km	60%+ reduce
Ride Quality	Poor	Excellent	No touch with Wave
Price per seat [USD]	270 million	200 million	
	When considering the craft's speed, price per seat of WINGSHIP is 30% compare to that of HSC.		

High Speed Craft Ferry Market



* Jane's High Speed Marine Transportation(2011-2012)





II. WINGSHIP series market analysis

Market Analysis #3 : Ferry - Greece(example)



- **Fast Speed**
 - More three times faster than the speed boat
- **Outstanding Ride Quality**
 - No touch with wave
 - Air cushion under the craft
- **Excellent Applicability**
 - No need of additional docking facility

Vehicle	Travel Time (min)	Ticket price per seat(€)	Note
WINGSHIP	50'	59.8	Fast speed Comfortable flight ROI more than 40%
High Speed Craft	90-120'	59.8	Longer travel time Nausea



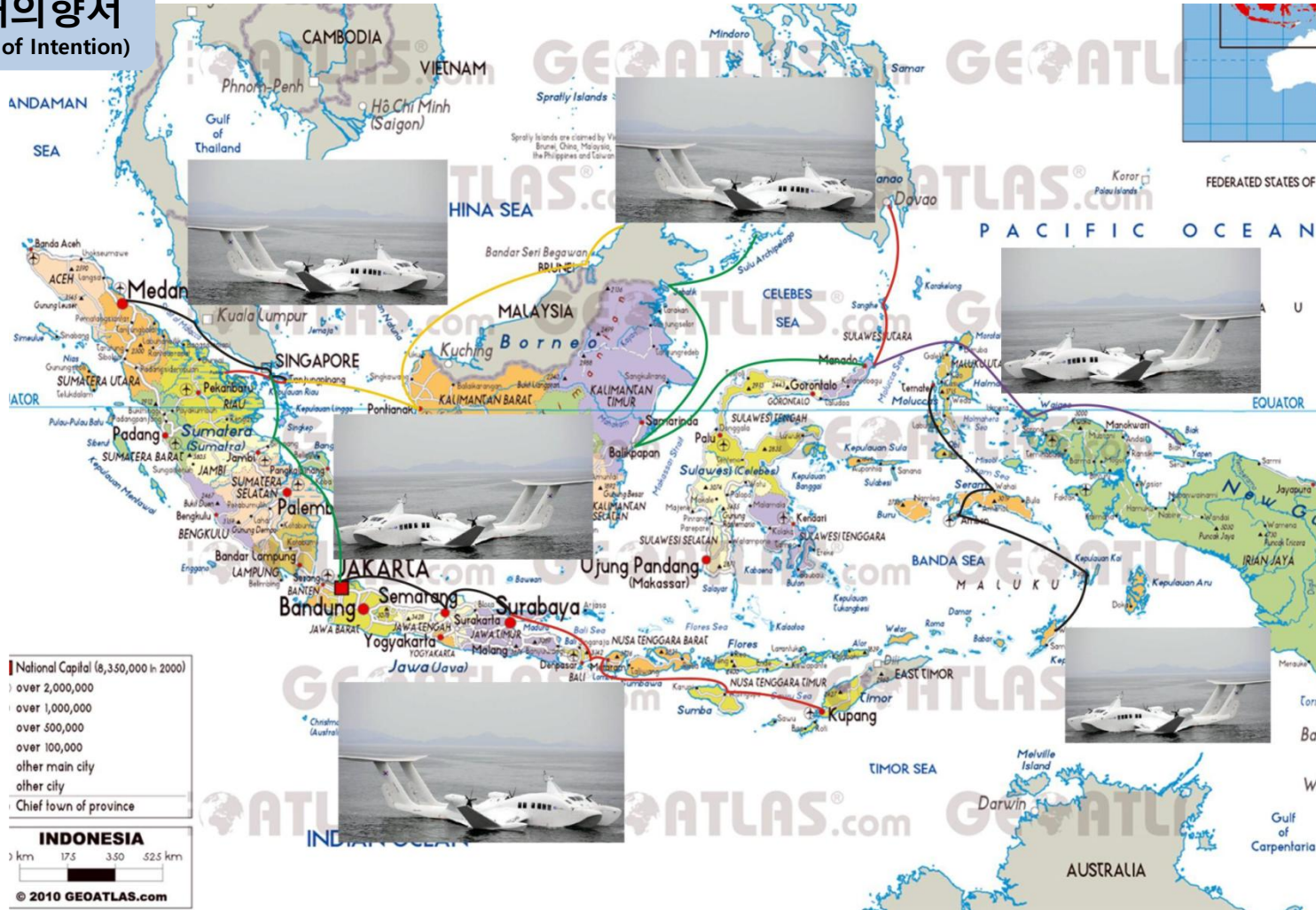
<High Speed Craft – 40knots>



II. 마케팅

시장성 분석 #5 : 여객선: NDPF(인도네시아)

구매의향서
(Letter of Intention)



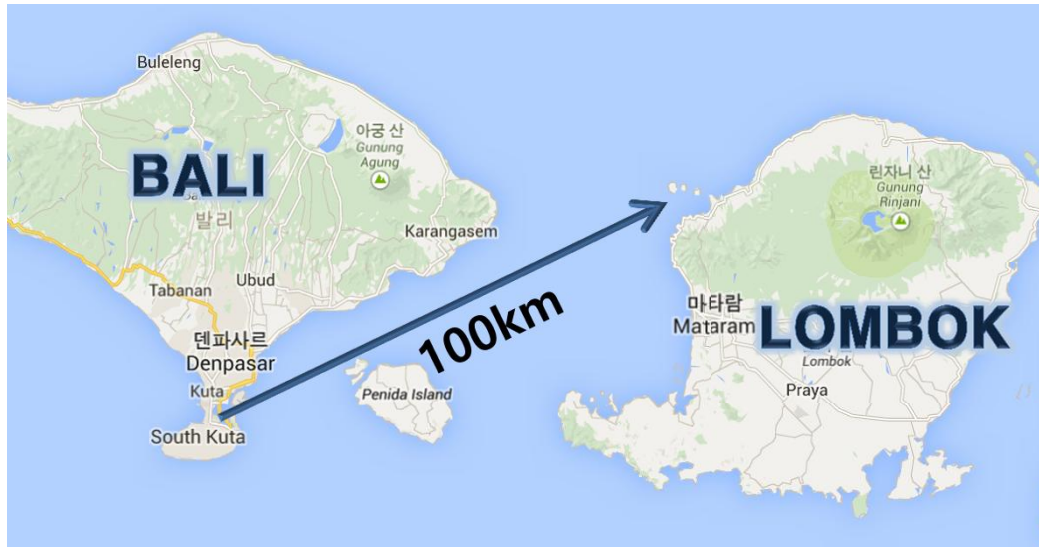
<NDPF 인도네시아 교통 시스템 혁신안>



II. WINGSHIP series market analysis

Market Analysis #3 : Ferry - Indonesia(example)

Passengers from BALI port to LOMBOK port



- **Fast Speed**
 - More three times faster than the speed boat
- **Outstanding Ride Quality**
 - No touch with wave
 - Air cushion under the craft
- **Excellent Applicability**
 - No need of additional docking facility

Vehicle	Travel Time (min)	Ticket price per seat(USD)	Note
WINGSHIP	35'~40'	58	Fast speed Comfortable flight ROI more than 30%
Ferry	240'~300'	3	Longer travel time
Speed Boat	120'~150'	58	Seasickness



<Speed Boat – 35knots>



II. WINGSHIP series market analysis

Market Analysis #4 : Cargo

Market

- **Partial substitution of Local air transport**
 - Demand of Sea & Air cargo
 - Increasing coast/island airport
 - Transporting dangerous air-cargo (such as Lithium-ion battery)
- **Creation of demands for fast shipping cargo**
 - Niche market

Expected market area of WINGSHIP series



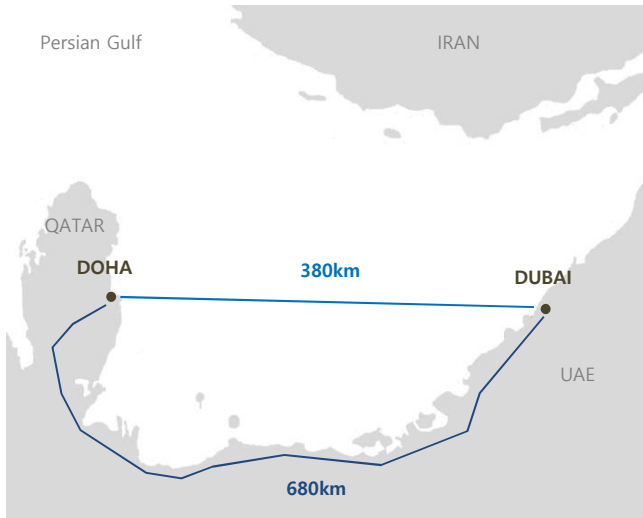
Expectation

- 5 crafts per year in primary markets
 - Such as Mediterranean sea, South-east Asia, Middle east, East Asia or etc.
 - Total orders of cargo WINGSHIP Series = **US\$ 200 million per year**



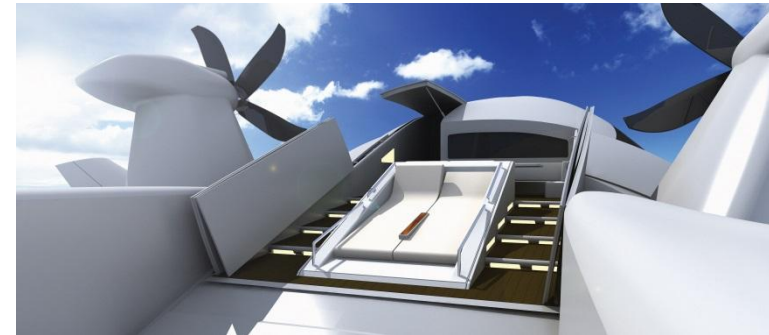
II. WINGSHIP series market analysis

Market Analysis #5 : Superyacht



[Passengers from Doha port to a resort of Dubai]

Time(hr)	Check-in	Route	To Resort	Total
WSH-500	0.5		2.0	2.5
Automobile		6.6		6.6
Airline	2	1.1	1.5	4.6



[Sun Deck on the backside of WINGSHIP]



[Direct Connectivity of WINGSHIP to the Resort]



II. WINGSHIP series market analysis

Market Analysis #6 : Others

Military & Coastguard

- **High speed & detection avoidance**
 - Making a contract with Korea NAVY(Dec. 2012) for military model
 - Swift reaction / Infiltration operations
 - NAVY / Coast guard / Maritime police

Rescue

- **Rescue team(such as ambulance)**
 - Searching, rescue & First aid treatment at once

Personal

- **Special market for special needs**
 - Similar position as coupe in automotive business



Above the horizon

Innovation in marine transportation

3. Timeline for launching WIGs in the Pacific

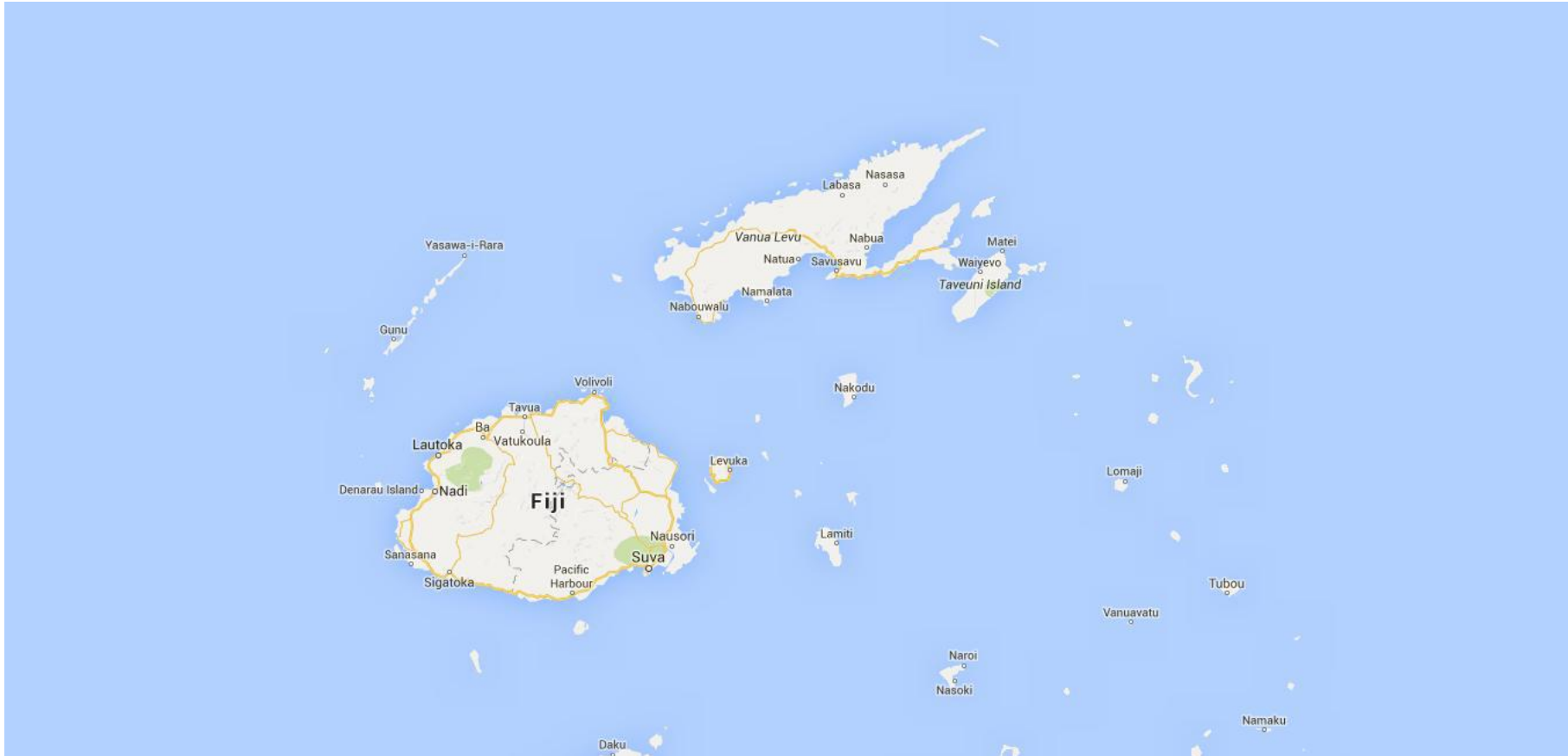


Feb. 2015





Inter Islands : WSH-500 (50 Seater)



Google Map

WINGSHIP Series (WSH-500)



Specification of WSH-500

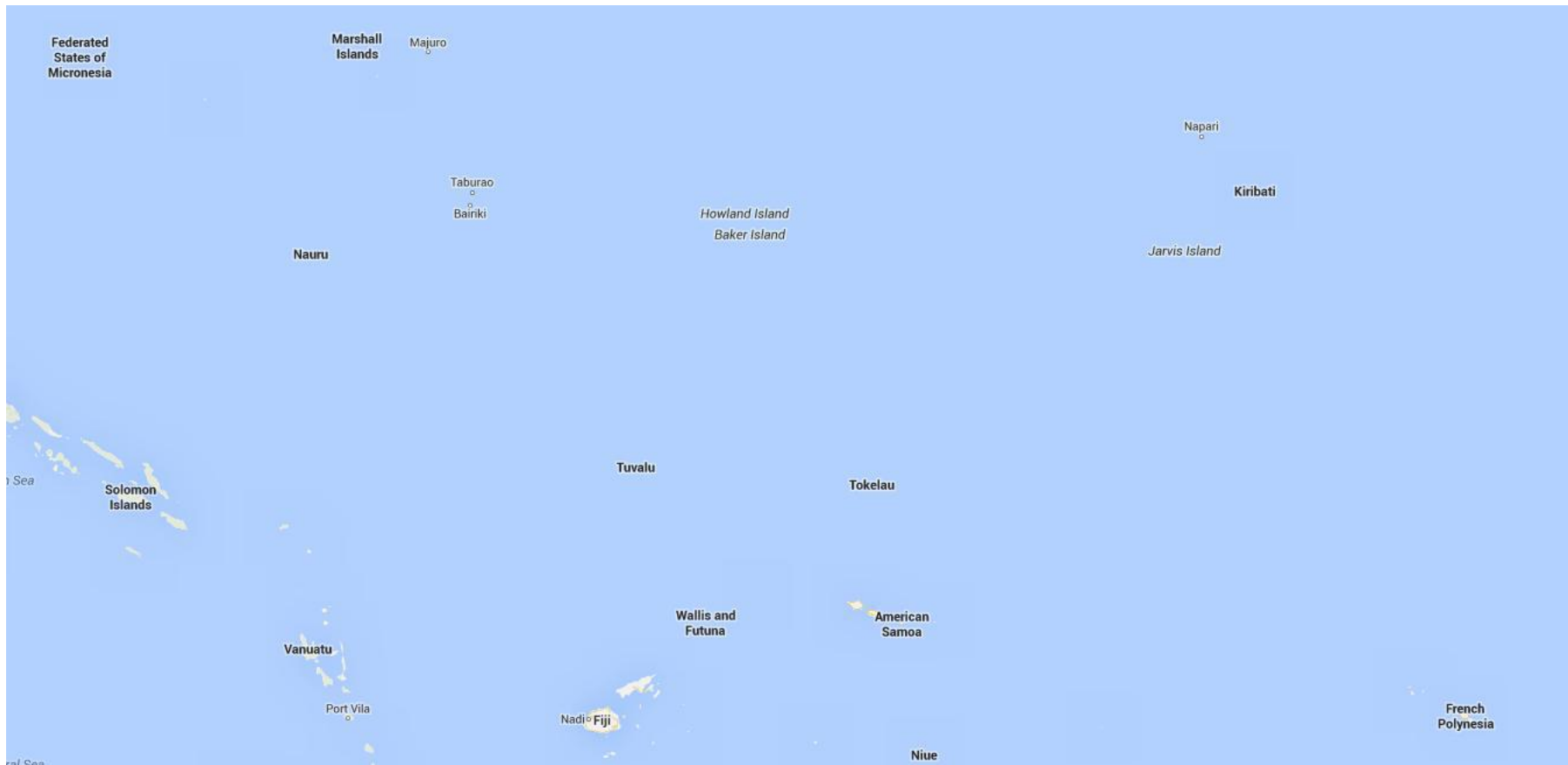
- Dimension 29m · 27m · 7m (Length · Width · Height)
- Cruising Speed 180km/h
- Cruising Altitude 2~5 m
- Materials Aluminum alloy
- Payload 50 persons
- Max. Range 500km
- Operation Limit
 - Normal Take-off/Landing Sea State 3
 - Extreme Landing Sea State 4
- Propulsion 1,400HP × 2EA Turboprop
- Fuel Consumption 460kg/h
- Certificate Lloyd's Register
- Design Life 20 years

*Above specification is the standard figures for the basic WSH-500 model. This data could be changed by buyer's requirements.

*Watch the WINGSHIP Operation in Youtube: <http://www.youtube.com/watch?v=Odd8iYYLpRg>



Inter States : WSH-1000 (100 Seater)



Google Map

WINGSHIP Series (WSH-1000)



Specification of WSH-1000

- Dimension 35m · 33m · 8m (Length · Width · Height)
- Cruising Speed 200km/h
- Cruising Altitude 2~5 m
- Materials Aluminum alloy
- Payload 100 persons or 10tons
- Max. Range 1,000km
- Operation Limit
 - Normal Take-off/Landing Sea State 4
 - Extreme Landing Sea State 5
- Propulsion 1,400HP × 3EA Turboprop
- Fuel Consumption 800kg/h
- Certificate Lloyd's Register
- Design Life 20 years

*Above specification is the standard figures for the basic WSH-1000 model. This data could be changed by buyer's requirements.

*Watch the WSH-500 Operation in Youtube: <http://www.youtube.com/watch?v=Odd8iYYLpRg>

Proposed Plan in South Pacific Region

(1) Inter Islands : WSH-500 (50 Seater)

- Range: 500km
- Combination of passenger and cargo (e.g. 30 Seats + 2 ton cargo)
- Delivery : 2 years after order
- Price: USD10millions(special price), RG(Refund Guarantee) (WST Loan or Investment: USD2millions)

(2) Inter States : WSH-1000 (100 Seater)

- Range: 1,000km
- Combination of passenger and cargo (e.g. 60 Seats + 4 ton cargo)
- Delivery : 3 years after order
- Price: USD20millions(special price), RG(Refund Guarantee) (WST Loan or Investment : USD4millions)

* MRO service

(3) Future Plan

- WINGSHIP R&D of 150-300 Seater



I would like to express sincere gratitude to Korean Embassy in Fiji and Korea Maritime Institute for supporting the symposium.

Thank you very much for your attention.