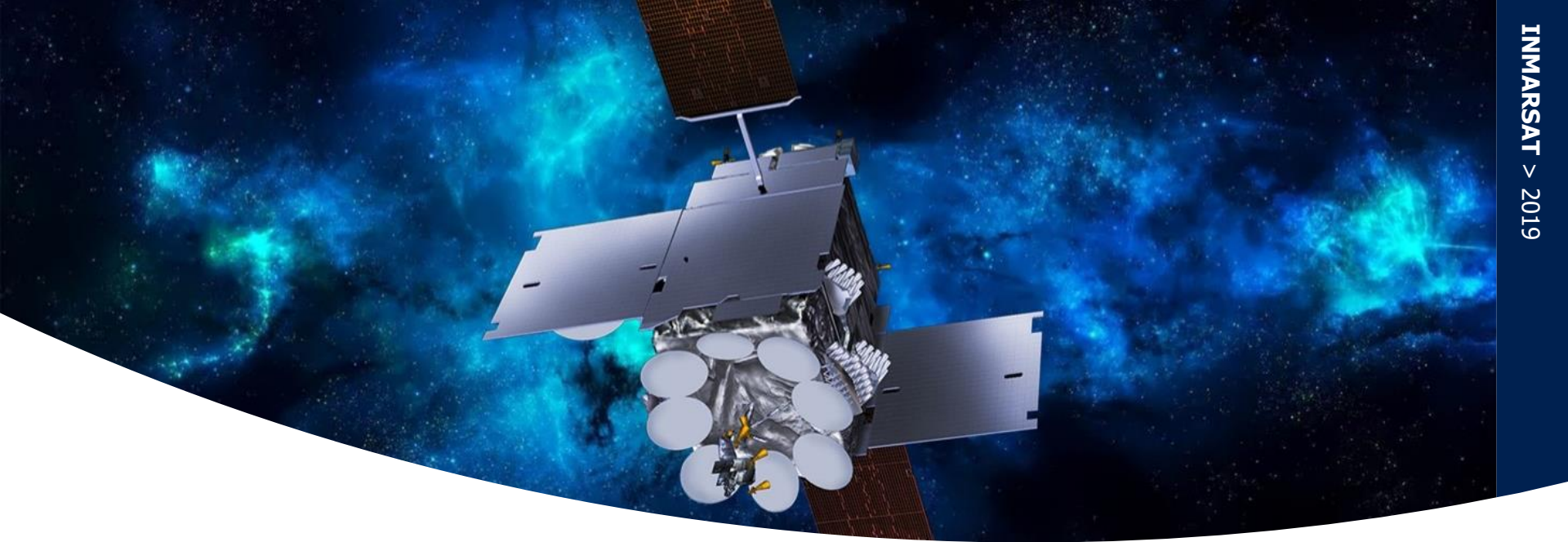


Inmarsat Maritime Safety

John Dodd
Director Safety Services
Inmarsat Maritime



Inmarsat Network

Inmarsat Fleet

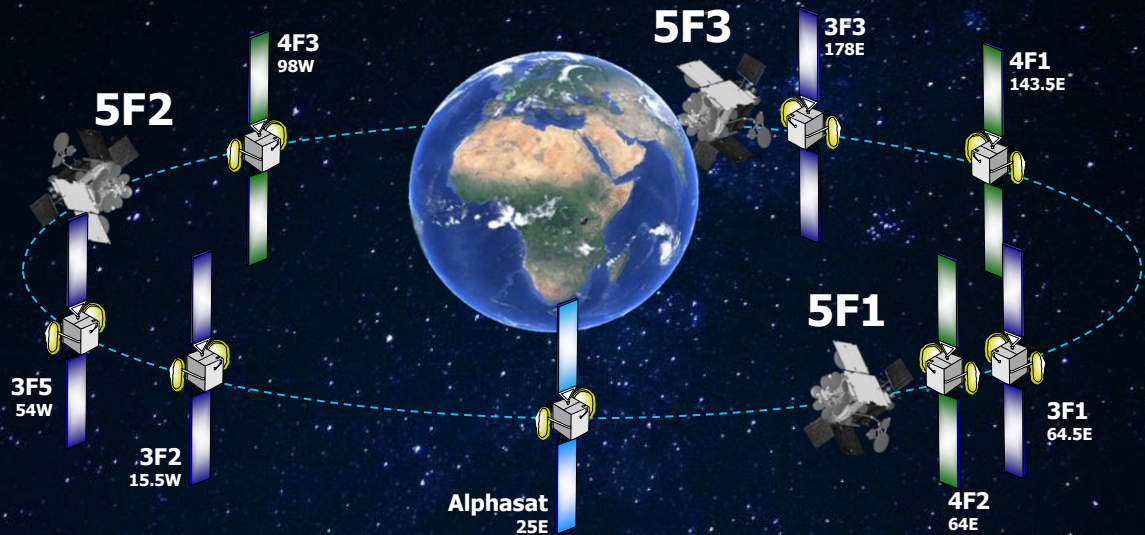
Geostationary orbit: 35,786km

>200

Aggregated years
of satellites in-
orbit

40

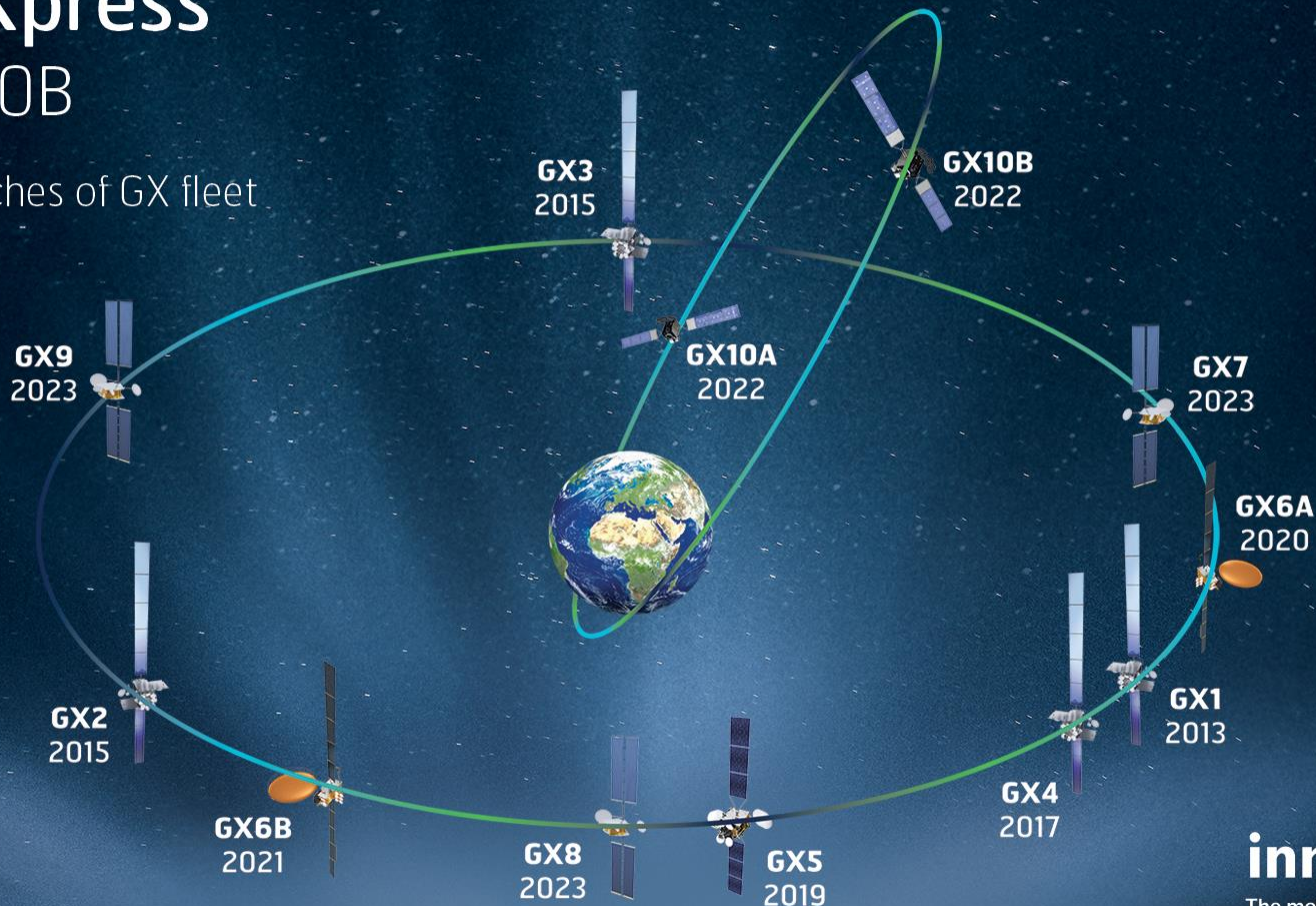
Years experience
operating mobile
satellite networks



Global Xpress

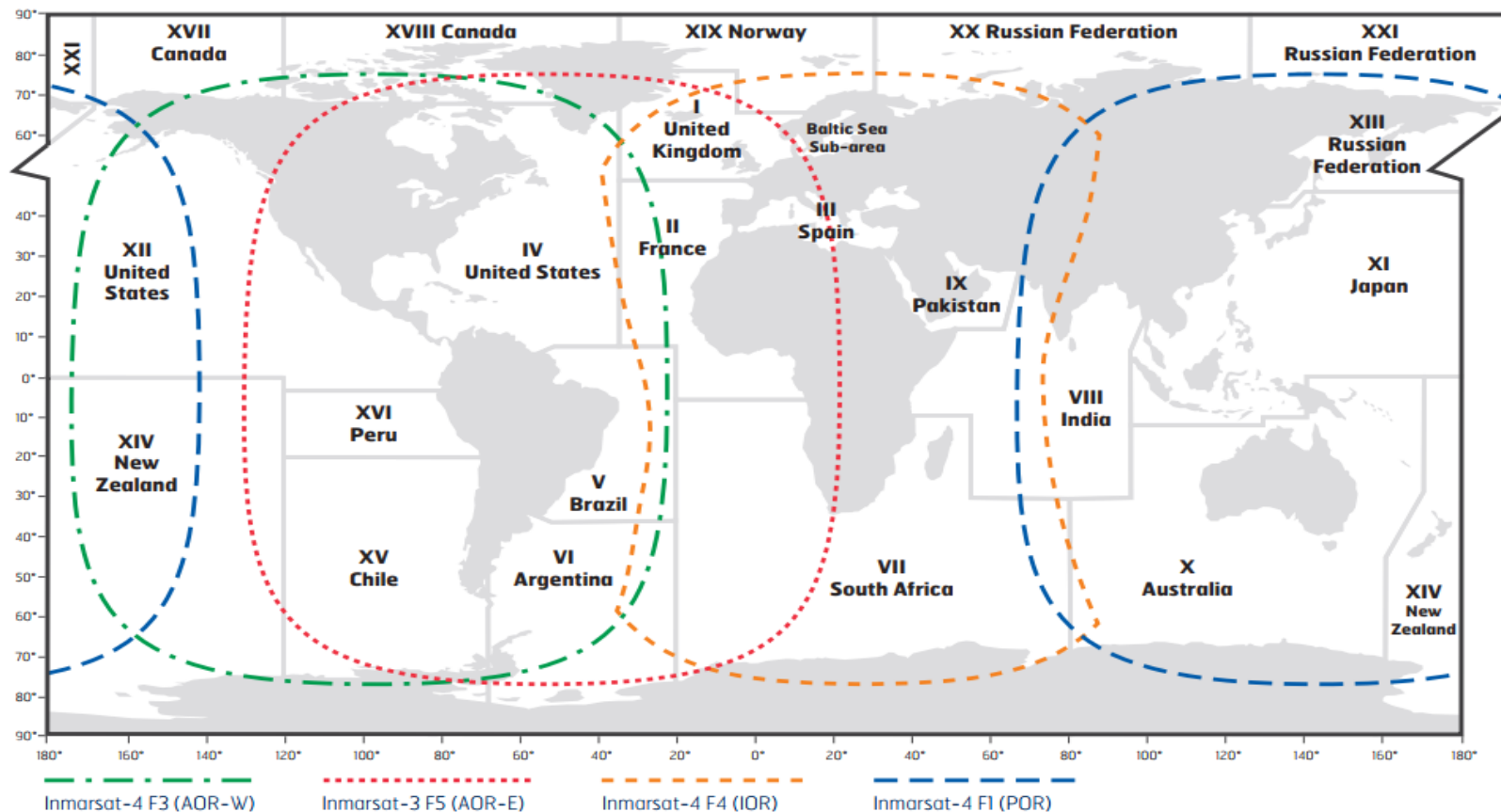
GX1 - GX10B

Scheduled launches of GX fleet



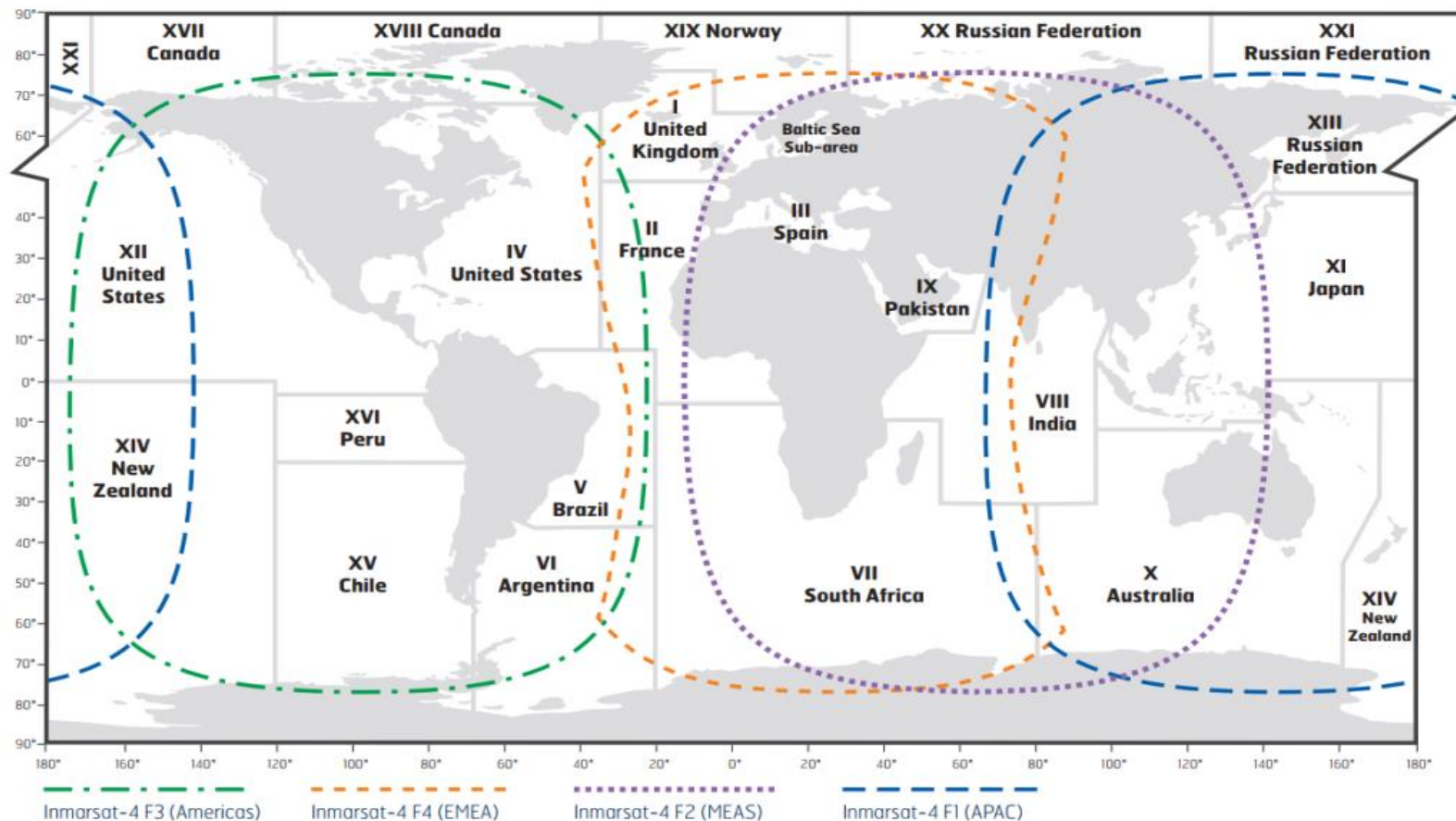
Please note that these
are indicative positions

Inmarsat C and Mini C coverage with NAVAREAs



This map depicts Inmarsat's expectations of coverage. It does not represent a guarantee of service. The availability of service at the edge of coverage areas fluctuates depending on various conditions.
 © Inmarsat Global Limited 2019.

Inmarsat Fleet Safety Coverage with NAVAREAs



This map depicts Inmarsat's expectations of coverage following the commercial introduction of Inmarsat's fourth L-band region. It does not represent a guarantee of service. The availability of service at the edge of coverage areas fluctuates depending on various conditions. © Inmarsat Global Limited 2019.

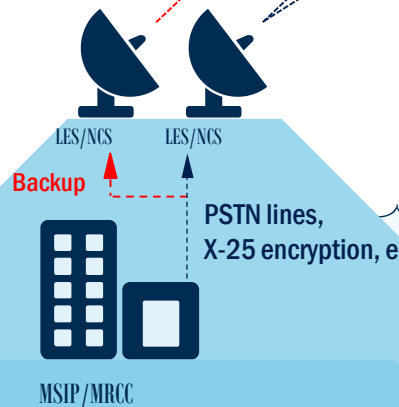


SafetyNET II

SafetyNET & SafetyNET II

GMDSS functions	SafetyNET	SafetyNET II
Integrated redundancies	✗	✓
Schedule broadcasts (Date/Time)	✗	✓
Charging rate plans	✗	✓
Secure web access	✗	✓
Direct cancelation of messaged	✗	✓
Broadcast over C, Minni C and Fleet Safety	✓	✓
Review message text and format	✗	✓
Reports / analysis	✗	✓
Monitor status (Scheduled, Sent etc)	✗	✓
Broadcast over ALL Satellites in area	✗	✓
Automatic satellite selection	✗	✓
API access (under development)	✓	✓

SafetyNET



C Codes					
C ₀ Ocean Region code (when required)	C ₁ Priority code	C ₂ Service code	C ₃ Address code	C ₄ Repetition code (See Annex 4, Part E)	C ₅ Presentatio n code
1 digit code	1 digit code	2 digit code	2, 4, 10 or 12 alphanumeric code	2 digit code	Normally a 2 digit code
0 - AOR-W 1 - AOR-E 2 - POR 3 - IOR 9 - All Ocean Regions ¹	1 - Safety 2 - Urgency 3 - Distress	00 - All ships (general call)	2 digit - 00 (All ships)	Category (a) – for EGC messages to be repeated a finite number of times. Category (b) – for EGC messages to be repeated at specified intervals until cancelled by the MSI provider.	00
		04 - Navigational, Meteorological or Piracy warning to a rectangular area	12 alphanumeric rectangular area address D ₁ D ₂ N(S)D ₃ D ₄ D ₅ E(W)D ₆ D ₇ D ₈ D ₉ D ₁₀		
		13 - Navigational, Meteorological or Piracy Coastal warning	4 alphanumeric coastal warning area address X ₁ X ₂ B ₁ B ₂		
		14 - Shore-to-Ship Distress Alert to a circular area	10 alphanumeric circular area address D ₁ D ₂ N(S)D ₃ D ₄ E(W)M ₁ M ₂ M		
		24 - Navigational, Meteorological or Piracy warning to a circular area	10 alphanumeric circular area address D ₁ D ₂ N(S)D ₃ D ₄ E(W)M ₁ M ₂ M ₃		
		31 - NAVAREA/ METAREA warning, MET Forecast or Piracy warning to NAVAREA /METAREA	2 digit - NAVAREA/METAREA number		
		34 - SAR Coordination to a rectangular area	12 alphanumeric rectangular area address D ₁ D ₂ N(S)D ₃ D ₄ D ₅ E(W)D ₆ D ₇ D ₈ D ₉ D ₁₀		
		44 - SAR Coordination to a circular area	10 alphanumeric circular area address D ₁ D ₂ N(S)D ₃ D ₄ E(W)M ₁ M ₂ M ₃		
1) Subject to availability through LES or service provider					

Fleet Safety



New MSI Message

New MSI Message

New MSI Message

New MSI Message

New MSI Message



New



New MSI Broadcast

Step 7 of 7

MSI Contents:

Text:

NAVAREA I 1
1. NAVAREA

2017 SERIES:
2019 SERIES:
118.

NOTES:

A. Texts of N
weekly edition
B. NAVAREA
promulgated
C. The compl
those which
III of ANMB in
the UKHO we

Date/Time Selecti

August 2						
S	M	T	W	Th	F	Sa
28	29	30	31			
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
1	2	3	4	5	6	7
Today						

Review Entries

MSI Type: nav

Service Code: 51

Priority: Safety

Area Type: NAVMET

Address: 01

Start Date:

End Date:

Repetition Code: 01

Receive Ack Req: Not Requested

Read Ack Req: Not Requested

Back Finish

MSI Report

From 24/07/2019 To 24/08/2019

Total MSI Messages Broadcasted (excluding repetitions)

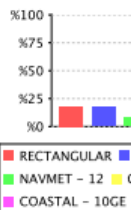
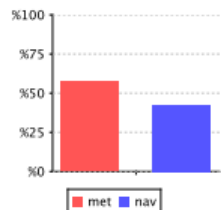
Type



Area Type



● RECTANGULAR
● NAVMET - 12
● COASTAL - 10GE



■ RECTANGULAR
■ NAVMET - 12
■ COASTAL - 10GE

MSI Type

met	
nav	

Priority

safety	
urgency	

August 24, 2019

MSI Message Detail

Reference Number: 576195

Type: nav
 Service Code: 51
 Area Type: NAVMET
 Address: 08
 Priority: safety
 Repetition Code: 01
 Size: 385
 Start Date: 08/06/2019 08:54:15
 End Date: 08/06/2019 08:54:15
 Status: Finished
 EGC Id: 19321
 MSIP: 123456
 Station ID: 40

Detail:
 NAVAREA VIII 496.
 INDIA EAST COAST.
 CHARTS IN 355 (INT 7405).
 1. RIG LIST
 ABAN II 16-39.01N 082-22.73E
 DEEP DRILLER8 16-40.09N 082-25.43E
 DDKG1 16-08.78N 082-35.39E
 ESSAR WILDCAT 16-33.17N 082-26.49E NEW
 SSV LOUISIANA 16-19.56N 082-21.06E
 OLINDA STAR 16-19.21N 082-16.33E
 DSR PLATINUM EXPLORER 16-21.97N 082-20.70E
 2. WIDE BERTH REQUESTED.
 3. CANCEL NAVAREA VIII MSG 468/19.
 ++++

Acknowledge List

Acknowledge Time	Type	Source
------------------	------	--------

Count (Excluding repetitions)

	16
	15
	7
	7
	6
	4
	3
	3
	3
	2
	2
	2
	1
	1
	1
	1
	1
	1
	1
	1

Inmarsat SafetyNET II

100% of authorised Maritime Safety Information providers using Inmarsat EGC systems

20% of EGC now sent through SafetyNET II or RescueNET

SafetyNET II NAV

7

4 on free trial

SafetyNET II MET

2

2 on free trail

SafetyNET II SAR

33

4 pending

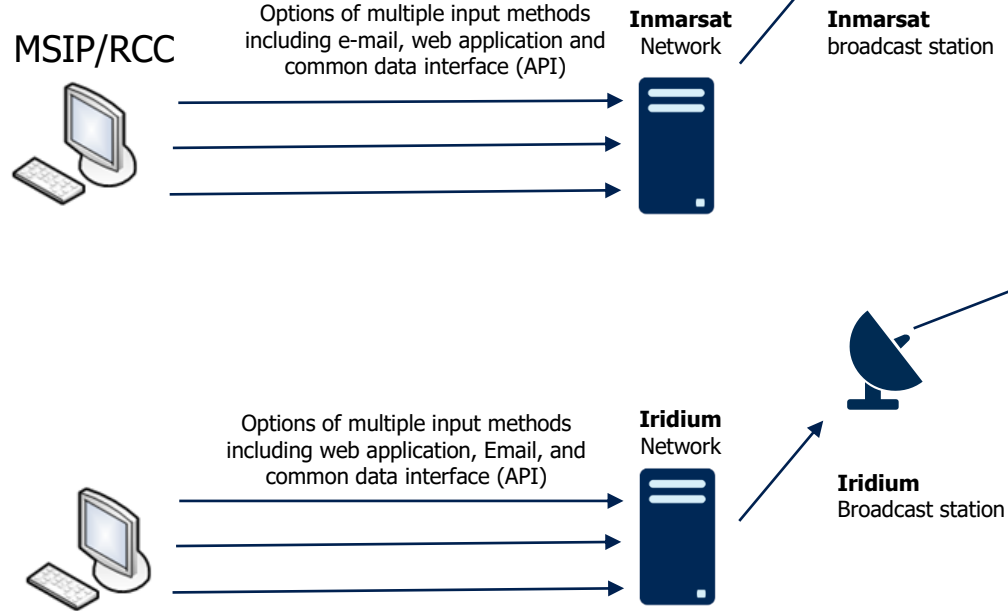
API access under development with WMO / UK Met Office
Alpha testing underway – Beta testing due October



EGC Broadcasting in multi provider environment

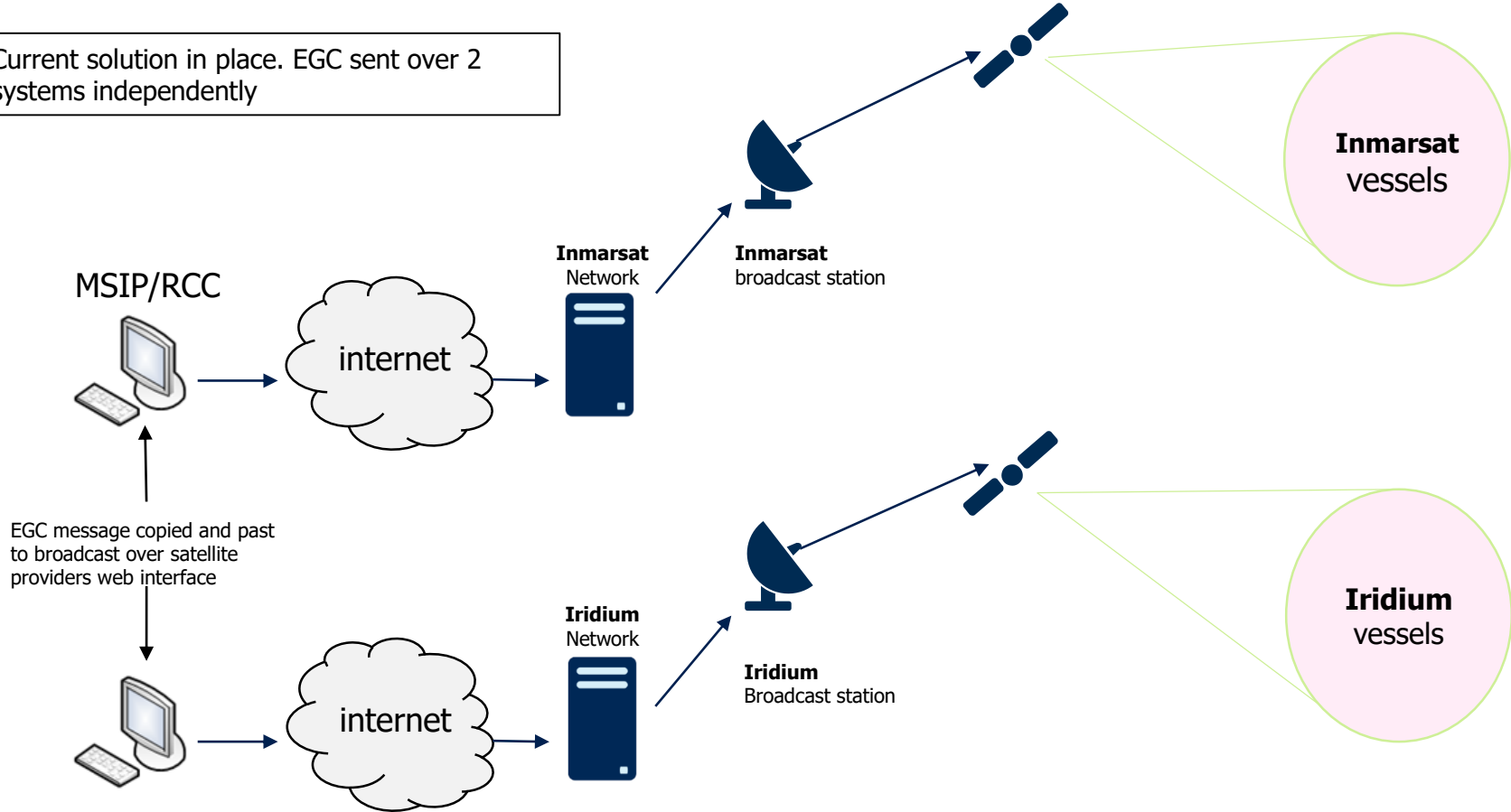
Current EGC Broadcasting options

Multiple input methods including current methods of web applications, e-mail and the proposed common data interface. No extra annual cost, flexible solutions to suite each MSIP / RCC



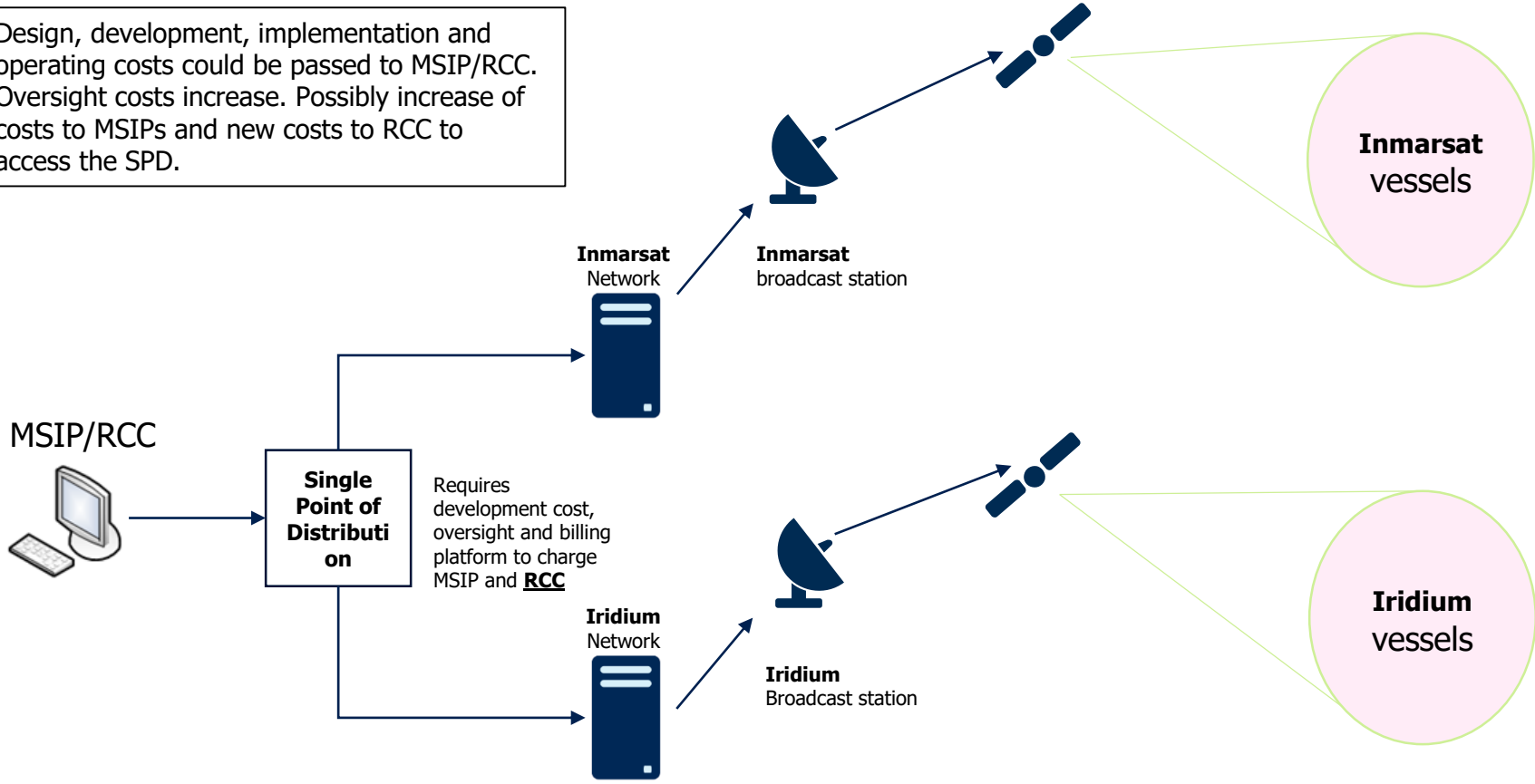
EGC Broadcasting options

Current solution in place. EGC sent over 2 systems independently



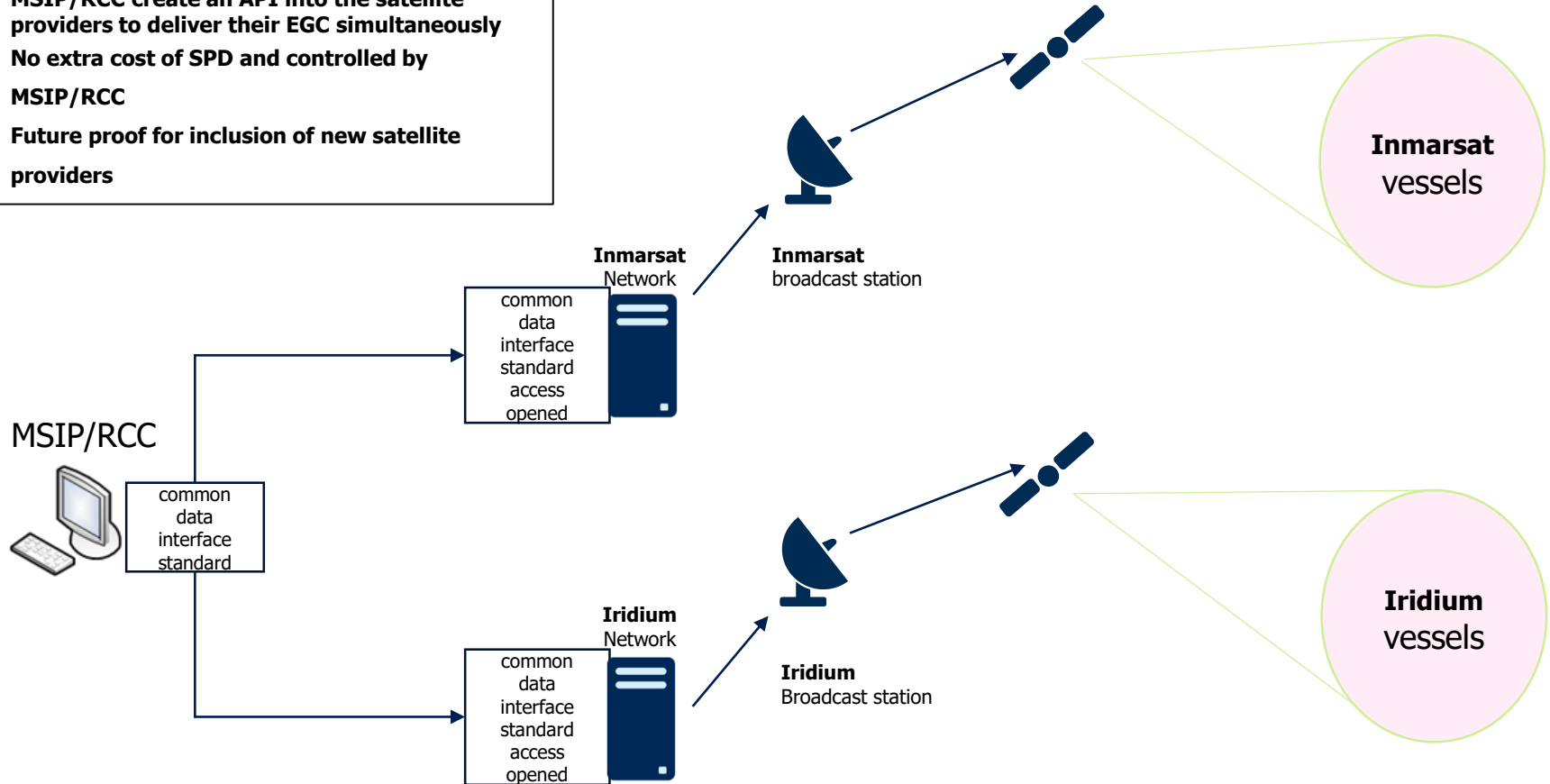
EGC Broadcasting options

Design, development, implementation and operating costs could be passed to MSIP/RCC. Oversight costs increase. Possibly increase of costs to MSIPs and new costs to RCC to access the SPD.



- **IMO create a standard M2M/API format for Satellite providers to make available to MSIP/RCC.**
- **MSIP/RCC create an API into the satellite providers to deliver their EGC simultaneously**
- **No extra cost of SPD and controlled by MSIP/RCC**
- **Future proof for inclusion of new satellite providers**

EGC Broadcasting options

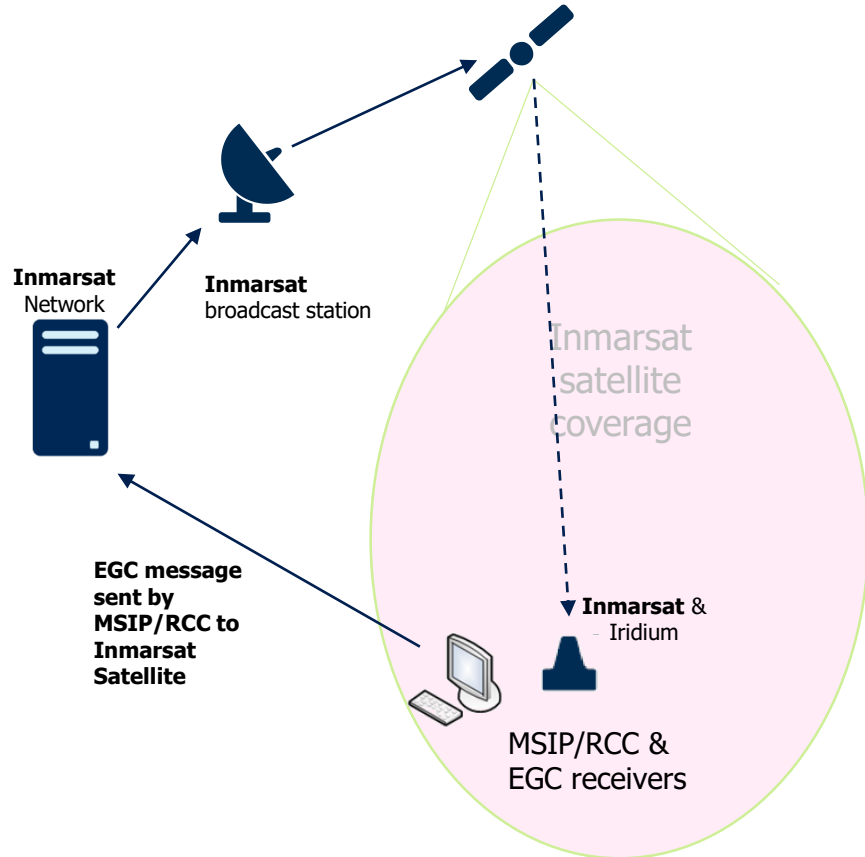




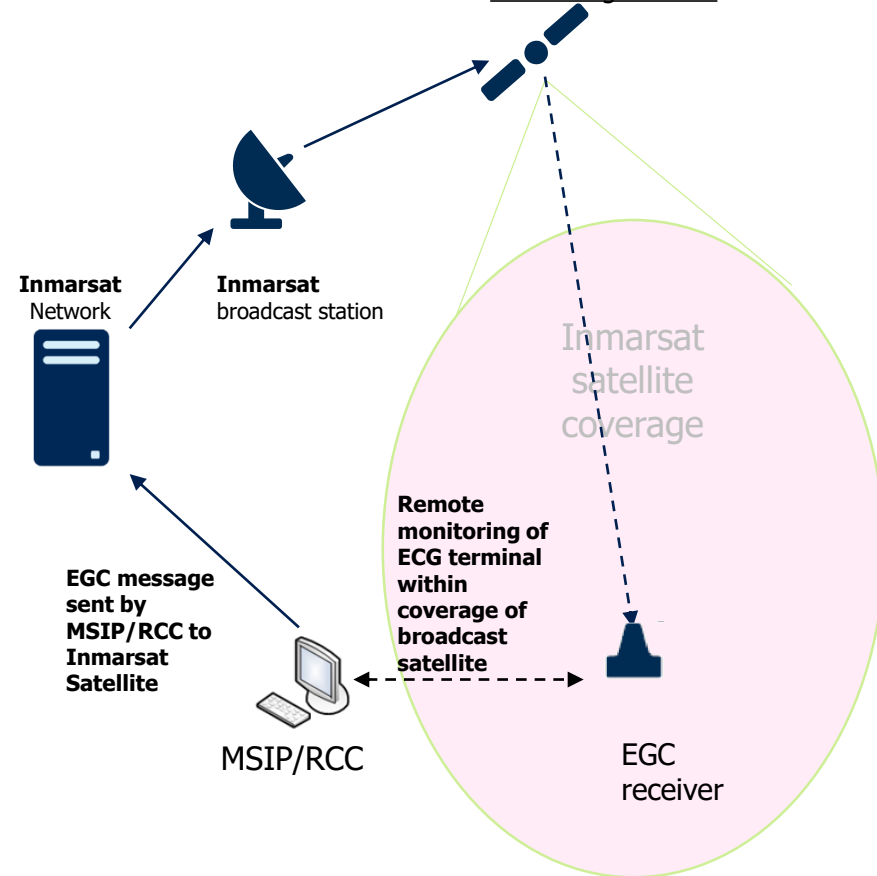
EGC Monitoring in multi provider environment

EGC Monitoring current option (Inmarsat)

MSIP under coverage of broadcasting satellite
the message is automatically received

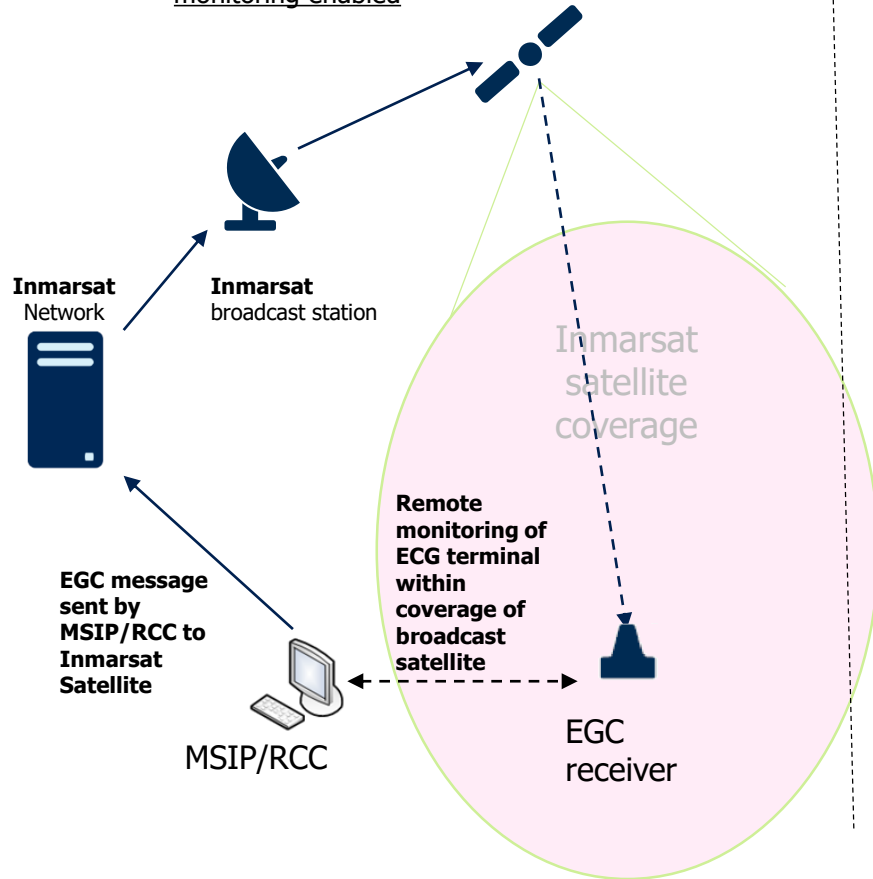


MSIP NOT under coverage of broadcasting satellite
the EGC receiver should be installed
within the broadcasting coverage and remote
monitoring enabled

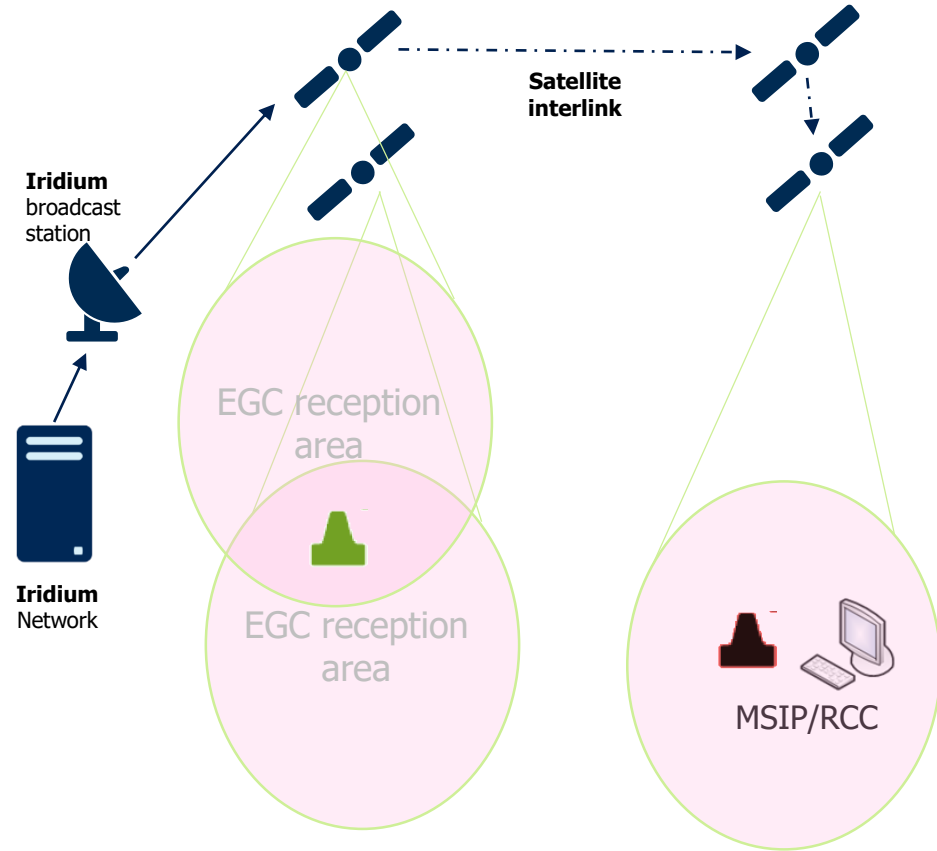


EGC Monitoring current option difficulties (Inmarsat)

MSIP NOT under coverage of broadcasting satellite the EGC receiver should be installed within the broadcasting coverage and remote monitoring enabled

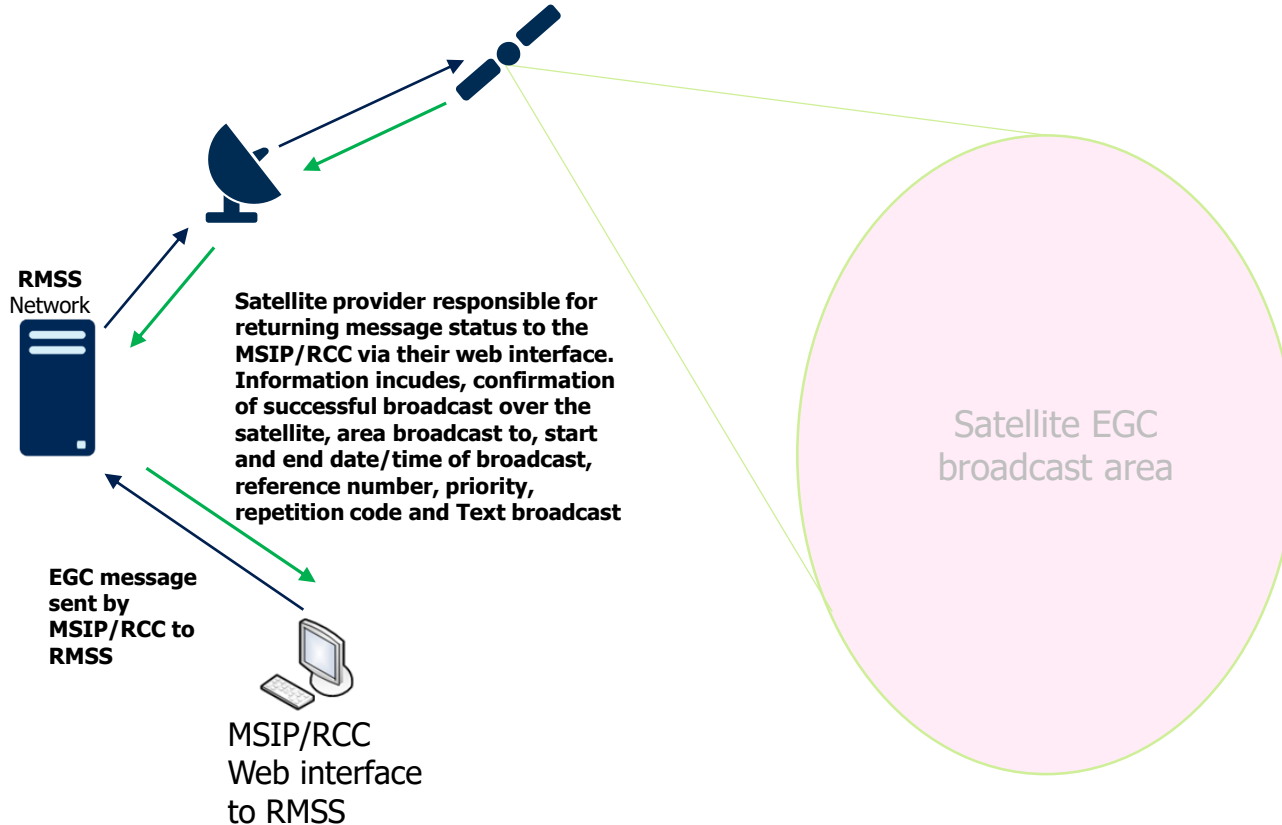


Using conventional method of monitoring on a LEO satellite system will not enable MSIPs to monitor the correct broadcast from the operational broadcasting satellite



EGC Monitoring options (Inmarsat & Iridium)

MSIP/RCC does not require a SES to monitor broadcast status and information.





Fleet Safety

Inmarsats role within the GMDSS



Inmarsat provides the space segment necessary for instant and reliable Distress and Safety satellite communications for the maritime community

Inmarsat offers three satellite communications systems designed to provide most of the GMDSS medium and long range functions.

- Inmarsat Fleet 77
- Inmarsat C
- Fleet Safety
- SafetyNET (II)
- RescueNET
- LRIT & SSAS

FleetBroadband is capable of all Inmarsat C and Fleet 77 GMDSS functions and passed IMO assessment A.1001(25) 100% first time

The Functions of the GMDSS and Inmarsat

GMDSS functions	Inmarsat F77	Inmarsat C	Fleet Safety
Distress Alert	✗	✓	✓
Voice Distress	✓	✗	✓
SAR Communications	✓	✓	✓
EGC – Maritime Safety Information	✗	✓	✓
Short Access Code voice	✓	✗	✓
Short Access Code Data	✗	✗	✓
Distress Chat	✗	✗	✓
MSI Pull	✗	✗	✓
LRIT	✗	✓	✓
SSAS	✗	✓	✓
VMS	✗	✓	✓
Manual RCC selection	✗	✗	✓
505	✗	✗	✓
RCC Vessel Tracking	✗	✗	✓

Shore Side

Inmarsat Ground

Inmarsat Space

Ship Earth Station

MSDS - Maritime Safety Data Service

← → ↺ 🏠

🔒 <https://msds.inmarsat.com/msds/>

⚙️ 📄 ⌵

RCC List

Name	Available	Primary	Phone Number
Eixo Digital (TEST ONLY)			
vorracecontrol			
RCC Stavanger			
MRCC Madrid			
MRSC St Johns			
JRCC Tahiti			
RCC Fort De France			
RCC Norfolk			
danarcc			
ukrcc			
ukhydrographic			
vorukrcc			
johnoddrrcc			
JRCC North Norway Bodo			
MRCC Riga			
JRCC Halifax			
JRCC Piraeus			
2 RCC with MSI			
MRCC La Reunion			
MRCC Klaipeda			
RCC Bermuda			
RCC Honolulu			
RCC Alameda			
JRCC Seattle			
Additional Information:			

rigarcc-20190507093740

👤 Invite Mst 🏠 Invite Rcc 🗑️ Remove 🔄 Handover ❌ Terminate

06:37:42 *Distress chat session started on room rigarcc-20190507093740*

06:37:54 **rigarcc>** MRCC Klaipeda has been invited to the room

06:37:59 **mrccklaipeda** is available for chat.

06:37:59 **rigarcc>** MRCC Klaipeda invitation was accepted

06:38:03 **mrccklaipeda>** OK

06:38:19 **rigarcc>** good morning Klaipeda

06:38:39 **rigarcc>** comms check via Inmarsat RescueNet

06:39:37 **mrccklaipeda>** Exercise DYMY 2019 started at 06:06 UTC

06:40:03 **rigarcc>** tks Klaipeda, info received

06:42:26 **mrccklaipeda>** Exercise Dynamic Mercy: Information from M/V Sakiai via satphone: she is adrift (pos 56 10.5N 19 51.5E) and not capable of using her propulsion due to an object (a rope, a sail or similar, tbc) on her propeller. The report was made by Sakiai on VHF ch 71 at approx 0605UTC.

06:44:07 **rigarcc>** tks, info received, pls inform MRCC Riga on futher situation development

07:00:31 **mrccklaipeda>** ok

07:09:53 **rigarcc>** MRCC Riga scrambled Rescue Helicopter LAF 102, ETA to Distress psn in 1,5 hrs, endurance 2 hrs, helicopter informed that On-Scene communication channel is VHF Ch 71.

07:12:03 **mrccklaipeda>** Msg received

👤 RCCs

- MRCC Riga
- MRCC Klaipeda

🚢 Vessels

Send

Start 🏠 🗣️ 🏠 RCC List 🗨️ rigarcc-20190507093740

07:13 07/05/2019

ESAS Vessel List

IMN	Service
471012220	INM-C
427309975	INM-C
425666111	INM-C
445742311	INM-C
424202570	INM-C
445742310	INM-C
463722953	INM-C
463722952	INM-C
441302750	INM-C

BSS Vessel List

Vessel Name
425666111
456308612
427309975
427309975
453844298
427309975
456601384
437540712
437540712
441302750
441302750
453844298
457400540

MING RONG

BSS Detail

MING RONG

Vessel

MMSI:

IMO:

Owner:

IMSI:

The vessel information



New SAR Broadcast Message

- Priority Messages
- SAR Broadcast Messages
- RCCs
- Vessels
- Chat
- Control Panel
- Change Password
- Log Out

- Priority Messages
- MSI Messages
- RCCs
- Vessels
- Chat
- Change Password
- Log Out

Start 🏠 🗣️ 🏠 New MSI Message 🗨️ ESAS

Inmarsat RescueNET

End to end Safety at Sea

FREE OF CHARGE!

The
cou

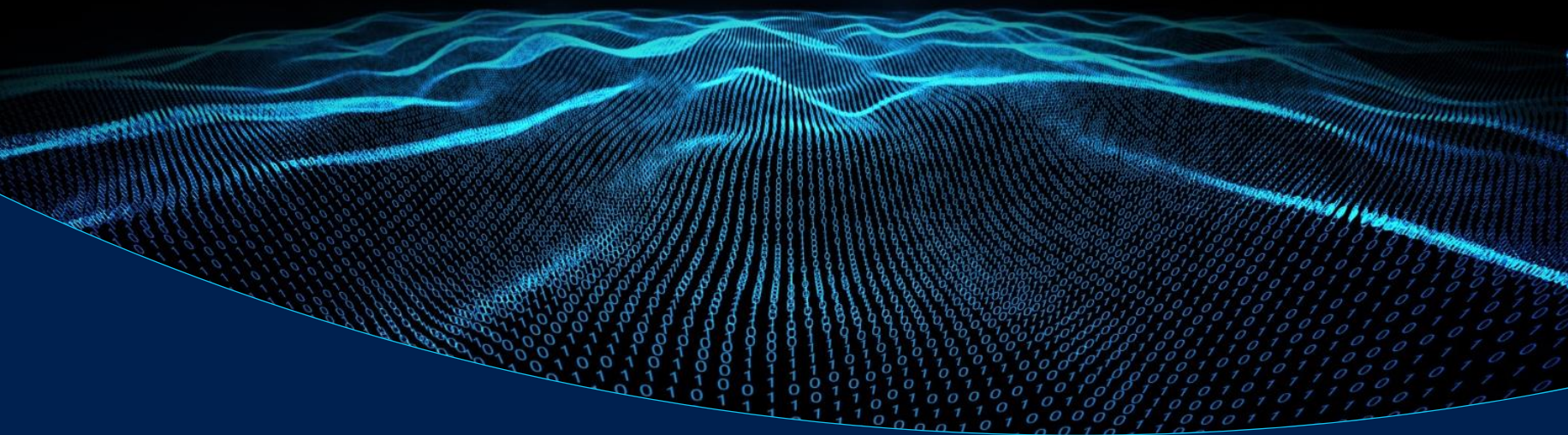
at sea as well as being successfully used by multiple



- MRCC Madrid
- MRSC St Johns
- JRCC Tahiti
- USCG Atlantic Area
- MRCC Port Blair
- MRCC Lisbon

• MRCC Abu Dhabi

• MRCC Chile



Thank you

NAVAREA	Co-Ordinator	Ocean region Pre migration	Minimum Required satellites	All Satellites used for this area
I	UK	AOR-E	AOR-E (54W), EMEA	AOR-E, AOR-W, IOR
II	France	AOR-E	AOR-E (54W)	AOR-E , AOR-W, IOR
III	Spain	AOR-E	IOR	AOR-E, IOR
IV	USA	AOR-W	AOR-E	AOR-E , AOR-W, IOR
V	Brazil	AOR-E	AOR-E	AOR-E , AOR-W, IOR
VI	Argentina	AOR-W	AOR-E	AOR-E , AOR-W, IOR
VII	South Africa	AOR-E, IOR	IOR, POR, AOE	AOR-E , POR, IOR
VIII	India	IOR	IOR, POR	IOR, POR
IX	Pakistan	IOR	IOR	IOR
X	Australia	IOR, POR	IOR, POR	IOR, POR
XI	Japan	POR, IOR	POR	POR
XII	USA	AOR-W, POR	AOR-W, POR	AOR-E, AOR-W, POR
XIII	Russian Federation	POR	POR	POR
XIV	New Zealand	POR	POR, AOR-W	POR, AOE-E, AOR-W
XV	Chile	AOR-W	AOR-W	AOR-E, AOR-W
XVI	Peru	AOR-W	AOR-E	AOR-E, AOR-W
XVII	Canada	POR	AOR-W, POR	AOR-E, POR
XVIII	Canada	AOR-W	AOR-W, AOR-E	AOR-W, AOR-E
XIX	Norway	AOR-E	AOR-E, IOR	AOR-E, IOR
XX	Russian Federation	IOR	IOR, POR	IOR, POR
XXI	Russian Federation	POR	POR	POR