BLUEMASSMED OPERATIONAL SCENARIO 1.

COLLISION SICILY CHANNEL

Developed by IT PN.

INDEX

1.   Introduction.

The purpose of this document is to define the operational scenarios to be used in order to test the operational effectiveness of the Blue Mass Med network.

The operational scenarios provide the background required in order to promote the validation of all BMM System Services and the Information Exchange Requirements (basic and non basic) between the nodes of the network, and therefore, the scenarios describe the tasks and activities, operational elements, and information exchanges required to accomplish the mission.

This document has to be read in conjunction with the lates edition of the BMM Demonstration Plan.

In the following sections a detail description of one operational scenario. All the information provided is fictional and the only purpose is to help to test the network and the services. The basic / non basic information which is intended to be exchanged between BMM partners is fictional, and therefore the issue of whether the information is unclassified / sensitive or classified is not applicable in the context of this document.

This operational scenario promotes the exchange of information based on an existing Shared Basic Common Maritime Picture (SBCMP) and they are designed to use all the services available, both core services and common services. In this regard, the scenario should provide opportunities to create new tracks, to update existing tracks, to assign or modified track numbers, or the deletion of an existing track. They also provide opportunities to exchange track historic data among the authorised nodes, to communicate among the nodes (via internet type e-mail, chats, IP phoning, etc...), to exchange imagery products (static media files, streaming media file, including satellite imagery) or to exchange mapping information.

NOTE

- This operational scenario has been developed with the most current technical information available and it will be adapted to the services and information exchange requirements implemented by each node.
- It is imperative that the individual nodes with active involvement in this scenario check the feasibility to perform the tasks specified. In any case will inform the designated PN responsible person the availability of its node to conduct the operational demonstration.

---

2. General description of the Scenario.

This BMM Operational Scenario has an initial description in which it is explained in general terms the initial situation and the surrounding circumstances. Starting form the initial situation the scenario is developed with different actions occurring upon which the BMM partners take measures to prevent the dangerous situation form occurring or to mitigate the effects.

Following the description there is a graphical map of the scenario, and a list of injections and the information exchange occurring amongst BMM partners.

The exact format of the information exchange will be established during the trials in accordance with the services developed by each node.

Finally a list of the partners involved in each scenario is shown.

Collision at sea with environmental and search and rescue consequences in central Mediterranean.

Description

The tanker MAERKS NUCLEUS (MN), coming from the Persian Gulf, crossed the Suez few days ago. She is sailing towards the Strait of Gibraltar with a full load of Arabian Super Light oil (Group 2). Her next port of call is (Portugal).

The chemical tanker BRITISH EXPLORER (BE), coming from the Strait of Gibraltar, is carrying dangerous goods. Her next port of call is Gela (Sicily, Italy) to unload highly contaminant chemical products. Afterwards she will sail towards the port of Piraeus (Greece). The tanker has a poor safety record in the port authorities of BMM partner's hold relevant information of safety violations in the last year, mainly regarding the safety of navigation.

After exchanging information on the vessel (basic and non basic), there is a collision between the two vessels in the Sicily Canal with heavy traffic, under low visibility condition, and characterized by a situation of what is called 'black swan'.

After an initial damage assessment both vessels are diverted to Gela to unload their respective cargos. The environmental crisis affects to population, protected wildlife, fishing areas, and infrastructures such as tourist resorts, etc. The BMM Network is use to mitigate the impact of the environmental disaster; coordinate the activities of the different agencies, including the search and rescue efforts.

Map.

Injections and Information Exchange.

BMM network is working on a routine bases. Within the area, there is a Chemical Tanker (British Explorer-BE) with a bad record during port inspection.

T1. SP (SASEMAR) create new track of BE crossing the Straight of Gibraltar and request information services on the vessel. FR (Maritime Affairs) and PT (Primary Node) provide port state control history and other relevant information.

T2. SP (SASEMAR) informs track is lost. IT (Primary Node) update information on the track

BE informs MRCC Rome that a collision at sea has occurred.

T3: IT (Primary Node-PN) provides Alerts service. All nodes subscribe. Initial situation indicates that there are three developing situations: SAR, HNS and oil pollution.

T4: IT (PN) node provides an alert reporting incident at sea and creates a synthetic track on the estimated position.

T5: IT (PN) node requests track history regarding MAERSK NUCLEUS -MN. GR (Coast Guard) provides.

T6: MT (Defence) requests METEO data. IT (PN) provides local weather conditions.

MRCC Rome confirms classes of cargo on board via Safeseanet

T7: IT (PN) subscribes information services to BMM. GR (Coast Guard) and PO (PN)

provide any relevant non basic information (cargo, crew, name).

MRCC deploys rescue helos to evacuate crew(12 pax) of BE (Chemical Tanker) due to dangerous vapors,

T8: IT (PN) provides video streaming of the collision and situation update.

MN (Oil tanker) crew intends to evacuate as well, although they remain on board (11 pax, 3 pax remain on board) POLREP – 2 x tanks effected, 40K tons approx Arabian super light.

T9: IT (PN) requests FR (Defence) to assist with surveillance aircraft to monitor area and establish the area of spill. FR activates surveillance aircraft
T10: MT (Defence) informs that 2 tugboats have been diverted on scene.

Coordination between BMM partners to authorize movement and berthing to Gela. Decision to employ dispersants in the area required (Malta and Italy). IT and MT exchange information with REMPEC (IMO), about use of dispersants on the high seas.

T 11: MT (Defnce) requests IT (PN) satellite imagery (wide area pollution). IT (PN) provides

Oil slick is heading towards Malta. Exchange of information to determine place of refugee for the Maerks Nucleus. Owners inform that arrangements are being made for ship to ship transfer of cargo.

Expected results.

The BMM system provides useful exchange of information, initially to monitor the transit of a dangerous vessel (BE) and latter to mitigate the impact of a collision at sea. BMM network provides coordination amongst partners to address the situation created in the Sicily Channel.

Partners Involved.

BMM:
France – Defence, Maritime Affairs.
Italy – Transport, Defence, Coast Guard and Environment.
Malta – Defence.
Greece – Hellenic Coast Guard.
Spain – Defence, SASEMAR
Portugal – Maritime Affairs

Others
EMSA, REMPEC

Comments.

Operational scenario depicted a situation which requires exchange of information on environment, search and rescue.

3. General Animation Plan.

3.1. Ship's Track Information.

TRACK NUMBER 1				
NAME	**FLAG**	**SPEED**	**LAST PORT OF CALL**	**DESTINATION**
MAERSK NUCLEUS (MN)	SINGAPORE (SG)	15 KNOTS	UNK	LISBOA (PORTUGAL)

POSITION	P1	P2	P3	P4	P5	P6	P7	P8
TIME	01D22H00	02D03H00	02D10H00	02D15H00	02D20H00	03D01H00	03D07H00	03D12H00
EVENT	Crossing Suez Channel	Approaching Greek TTW		Transiting Greek TTW				

POSITION	P9	P10	P11	P12	P13		
TIME	03D19H00	04D02H00	04D07H00	04D10H00	04D14H00-04D14H15	04D15H00-04D15H30	04D16H00-04D16H30
EVENT	Transiting IT TTW				Collision MN-BE	SAR operations	Environmental Protection operations

TRACK NUMBER 2				
NAME	**FLAG**	**SPEED**	**LAST PORT OF CALL**	**DESTINATION**
BRITISH EXPLORER (BE)	UNITED KINGDOM (UK)	15 KNOTS	UNK	GELA (ITALY)

POSITION	P1	P2	P3	P4	P5	P6	P7	P8
TIME	01D22H00	02D06H00	02D12H00	02D17H00	02D23H00	03D05H00	03D12H00	03D19H00
EVENT	Crossing Strait of Gibraltar	Transiting SP TTW						Transiting IT TTW

POSITION	P9	P10	P11	P12		
TIME	04D01H00	04D06H00	04D10H00	04D14H00-04D14H15	04D15H00-04D15H30	04D16H00-04D16H30
EVENT	Transiting IT TTW			Collision MN-BE	SAR operations	Environmental Protection operations
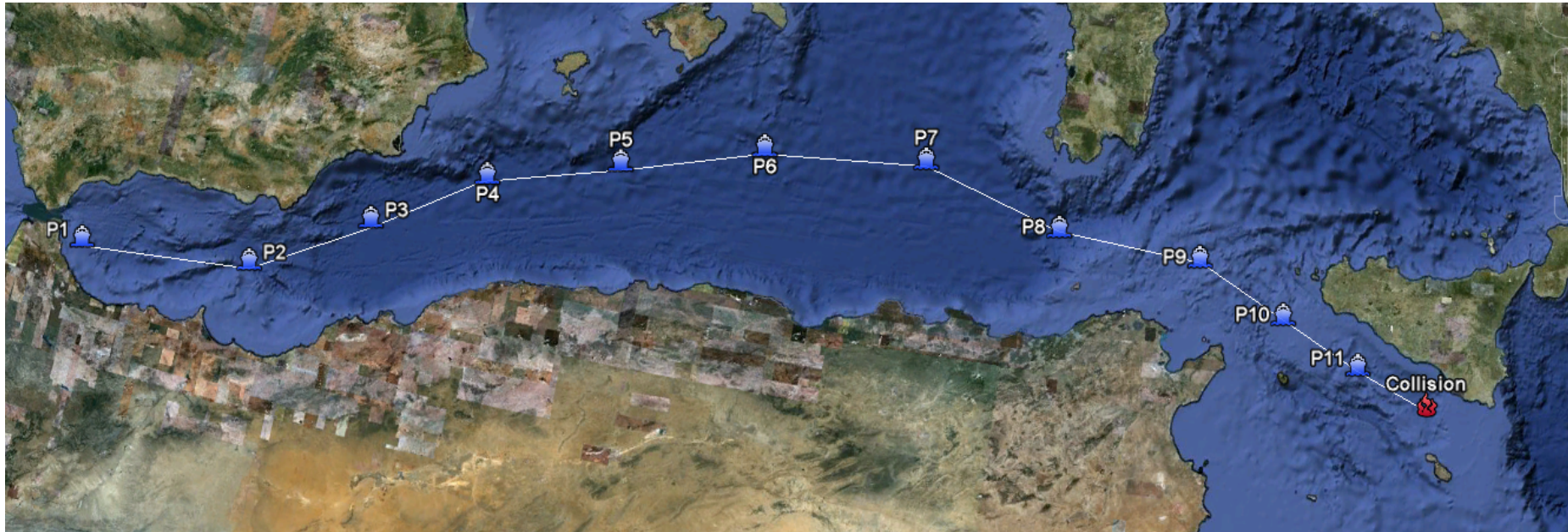
3.2. General Animation Plan.

Nº VIGNETTE/ INJECTION	TIME REFERENCE (Date & Time)	KEY EVENT (Description)	SERVICE REQUESTED / PUBLICATION. (Note 1)	INFO EXCHANGE REQUESTED / PUBLICATION (Note 2)	SOURCE OF INFORMATION (Asset providing info)	BMM NODES INVOLVED (Note 3)	SHIPS POSITION
T0	01D21H00	All the BMM Partners will subscribe to the SBCMP and the Data Augmentation Services on the scenario area	Set Subscription to BMM services. Provide Tracks: Publish S1.	Share Tracks.(Req.5.2)	All PN back-end system	All PN	n.a.
T1	01D22H00	SP PN updates BE track data and requires data augmentation services on BE track info	Provide Tracks: Publish S1 Request Ship Data: Request S4	Share Tracks (Req.5.2) Request Tack Info (Req.5.5)	SASEMAR system data injection	SP PN	BE P1
T1	01D22H00	IT PN provides satellite data to all the BMM community	Provide Tracks: Publish S4.	Share Satellite Data (Req.5.5)	CSK ship detection reports injection (IT ASI)	IT ASI	BE P1 MN P1
T1	01D22H05	PT and FR PNs provide information on BE (poor safety records) to SP PN	Provide Track Data: Publish S4.	Share Track Info (Req.5.5)	PT Asset ?? FR Asset ??	FR ?? PT ??	BE P1
T2	02D03H00-04D10H00	IT PN provides satellite data to all the BMM community	Provide Tracks: Publish S4.	Share Satellite Data (Req.5.5)	CSK ship detection reports injection (IT ASI)	IT ASI	BEP2–BEP7 MNP2–MNP8
T2	02D06H00–	Normal monitoring is continued by Spain (BE) (and EMSA / Italian Coast	Provide Tracks: Publish S1	Share Tracks (Req.5.2)	SP Asset ??	SP ??	BE P2 – BE P7

	03D12H00	Guard TBD through MARES)			(TBC) MARES system data injection (IT Coast Guard)	IT CP	
T2	02D12H00	Greek Coast Guard detect MN and put it in the picture.	Provide Tracks: Publish S1	Share Tracks (Req.5.2)	GR Asset ??	GR ??	MN P4
T2	02D12H00-03D12H00	Normal monitoring is continued by GR PN (and EMSA / Italian Coast Guard TBD through MARES)	Provide Tracks: Publish S1	Share Tracks (Req.5.2)	GR Asset ?? (TBC) MARES system data injection (IT Coast Guard)	GR ?? IT CP	MN P4 – MNP8
T2	03D19H00	IT PN request regional track information services to BE and MN entering in IT TTW	Request Regional Track Correlation Service: Request S2	Request Regional Tracks (Req. 5.3)	IT PN	IT PN	MN P9 BE P8
T2	03D19H00	SP & GR PN provide track information services	Provide Regional Tracks: Response S2	Response Regional Tracks (Req. 5.3)	SP Asset ?? GR Asset ??	SP ?? GR ??	MN P9 BE P8
T2	03D19H00-04D10H00	Normal monitoring is continued by IT PN (and EMSA / Italian Coast Guard TBD through MARES)	Provide Tracks: Publish S1 Provide Tracks and Track Data: Publish S4	Share Tracks (Req.5.2) Share Track Info (Req.5.5) Share Satellite Data (Req.5.5)	Coastal Radar, Navy Patrolling, AIS, LRIT, VTS CSK ship detection reports data injection (IT) (TBC) MARES system data injection (IT Coast Guard)	IT GdF IT MMI IT CP IT ASI	MN P9– MNP12 BE P8-BE P11
T3	04D14H00	IT PN provides alert to all the BMM Community on collision between BE-MN	Provide Alert: Publish S4	Distribute Alerts (Req.5.5)	VTS system data injection (IT)	IT CP	BE P12 MN P13

T3	04D14H00	IT PN provides satellite wide area imagery to all the BMM community	Provide Tracks: Publish S4.	Share Satellite Data (Req.5.5)	CSK wide area imagery (IT ASI)	IT ASI	BE P12 MN P13
T3	04D14H10	IT PN requires MN track history and ship info	Request Track History : Request S1

Request Data Augmentation Service: Request S4 | Request Track History (Req. 5.2)

Request Ship Info (Req.5.5) | IT PN | IT PN | BE P12

MN P13 |
T3	04D14H15	GR PN provides MN track history	ResponseTrackHistory: Response S1	Provide Track History (Req. 5.2)	GR Asset ??	GR ??	BE P12 MN P13
T3	04D14H15	PT PN provides ship track info	Response Data Augmentation Service: Response S4	Provide Ship Info (Req.5.5)	PT Asset ??	PT ??	BE P12 MN P13
T3	04D14H10	MT PN requires meteorological data on collision area	Request Data Augmentation Service: Request S4	Request Meteo Data (Req.5.5)	MT PN	MT PN	BE P12 MN P13
T3	04D14H15	IT PN provides meteorological data	Provide Data Augmentation Service: Request S4	Provide Meteo Data (Req.5.5)	VTMIS system data injection (IT CP)	IT CP	BE P12 MN P13
T3	04D14H20	IT PN confirms alert, including classes of cargo as	Provide Alert: Publish S4	Distribute Alerts (Req.5.5)	VTS system data injection (IT)	IT CP	BE P12 MN P13
T4	04D15H00-04D15H30	IT, FR & MT PN provides information collected by mobile assets surveying the collision area	Provide Track Data: Publish S4.	Share Track Info (Req.5.5)	ATR42 SAR mission data (IT)

Surveillance Aircrafts mission data (FR)

Tugboats SAR mission | IT GdF | BE P12 MN P13 |

					data(MT)		
T4	04D15H00	IT PN provides satellite wide area imagery to all the BMM community	Provide Tracks: Publish S4.	Share Satellite Data (Req.5.5)	CSK wide area imagery (IT ASI)	IT ASI	BE P12 MN P13
T5	04D16H00	IT PN provides Environmental Protection alert on use of dispersant (as agreed with REMPEC)	Provide Alert: Publish S4	Distribute Alerts (Req.5.5)	VTMIS system data injection (IT CP)	IT CP	BE P12 MN P13
T5	04D16H00	MT PN requests IT PN satellite imagery (wide area pollution)	Request Data Augmentation Service: Request S4	Request Satellite Wide Area Imagery (Req.5.5)	MT PN	MT PN	BE P12 MN P13
T5	04D16H30	IT PN (ASI) provides Wide Area Pollution satellite imagery	Provide Satellite Data: Publish S4.	Share Satellite Data (Req.5.5)	CSK wide area pollution imagery (IT ASI)	IT ASI	BE P12 MN P13

Note 1: System Services to be checked in accordance with annex II of the BMM Demonstration Plan and the latest version of the BMM Systems View. Identification of the Node requesting /providing the service is compulsory.

Note 2: Information Exchange Requirements in accordance with annex II of the BMM Demonstration Plan and the latest version of the BMM operational View. Identification of the Node requesting / providing the Information is compulsory.

Note 3: Identification of the Nodes involved and their role.

Note 4: All Partners involved in the Scenarios check technical feasibility of the service and information exchange requested.

3.3. BMM Nodes Involvement.

The following chart depicts the different nodes and their involvement in this operational scenario.

BMM NODE	Nº VIGNETTE/ INJECTION	TIME REFERENCE	SHIP POSITION	SERVICE REQUESTED / PUBLICATION. (Note 5)	INFO EXCHANGE REQUESTED / PUBLICATION. (Note 5)
IT (GdF)	T0	01D21H00	n.a.	Set Subscription. Provide AIS Track. Publish S1	Share Tracks (Req.5.2)
IT (GdF)	T2	03D19H00- 04D10H00	BE P8- BE P11 MN P9-MN P12	Provide AIS Track: Publish S1.	Share Tracks (Req.5.2)
IT (GdF)	T4	04D15H00- 04D15H30	BE P12 MN P13	Provide ATR 42 Track Data: Publish S4	Share Track Info (Req.5.2)
IT (ASI)	T1	01D22H00	BE P1 MN P1	Provide CSK Tracks: Publish S4.	Share Satellite Data (Req.5.5)
IT (ASI)	T2	02D03H00- 04D10H00	BE P2- BE P7 MN P2 – MN P8	Provide CSK Tracks: Publish S4.	Share Satellite Data (Req.5.5)
IT (ASI)	T3	04D14H00	BE P12 MN P13	Provide CSK Wide Imagery: Publish S4	Share Satellite Imagery (Req.5.5)
IT (ASI)	T4	04D15H00	BE P12 MN P13	Provide CSK Wide Imagery: Publish S4	Share Satellite Imagery (Req.5.5)
IT (ASI)	T5	04D16H30	BE P12 MN P13	Provide CSK Wide Imagery: Publish S4	Share Satellite Imagery (Req.5.5)
IT (MMI)	T0	01D21H00	n.a.	Set Subscription.	Share Tracks (Req.5.2)

				Provide AIS Track and Coastal Radar data: Publish S1	
IT (MMI)	T2	03D19H00-04D10H00	BE P8- BE P11 MN P9-MN P12	Provide AIS Track and Coastal Radar data: Publish S1.	Share Tracks (Req.5.2)
IT (CP)	T0	01D21H00	n.a.	Set Subscription. Provide AIS, LRIT, VTS Tracks: Publish S1 Provide VTMIS Track Data	Share Tracks (Req.5.2) Share Track Info (Req.5.5)
IT (CP)	T2	02D06H00-03D12H00	BE P2- BE P7	Provide MARES system data	Share Tracks (Req.5.2)
IT (CP)	T2	02D12H00-03D12H00	MN P4- MN P8	Provide MARES system data	Share Tracks (Req.5.2)
IT (CP)	T2	03D19H00-04D10H00	BE P8- BE P11 MN P9-MN P12	Provide MARES, AIS, LRIT, VTS Tracks: Publish S1 Provide VTMIS Track Data	Share Tracks (Req.5.2) Share Track Info (Req.5.5)
IT (CP)	T3	04D14H00	BE P12 MN P13	Provide Collision Report: Publish S4	Distribute Alerts (Req.5.5)
IT (CP)	T3	04D14H15	BE P12 MN P13	Provide Meteo Report: Publish S4	Distribute Meteo Reports (Req.5.5)
IT (CP)	T3	04D14H20	BE P12 MN P13	Provide Collision Report: Publish S4	Distribute Alerts (Req.5.5)
IT (CP)	T5	04D16H00	BE P12 MN P13	Provide Environmental Protection Report: Publish S4	Distribute Environmental Protection Report (Req.5.5)

Note 5: All Partners involved in the Scenarios check technical feasibility of the service and information exchange requested.