

Ship Evacuation Messaging Policy: External report

Katerina Ksystra, Petros Kavassalis, Costas Panou, Nikolaos Triantafyllou, and
Constantine Bitsikas

University of Aegean, Information Management (i4m) Lab, i4m-lab@aegean.gr

1 Evacuation phases and message objects

Evacuation Phase 1: Emergency Inspection

Start Event: Bridge emergency inspection signal

End Event: Acknowledgement message for order reception

Evacuation Tasks: *T1.1*: Crew is informed about the emergency, *T1.2*: Crew is ordered to move to the reported emergency area, *T1.3*: Crew received order - verification

Message Actions: *A1.2*: Order crew for visual inspection, *A1.3*: Acknowledgement of order reception

Message object 1.2:	Message Object 1.3:
Message Type: Notifications	Type: Notifications (feedback)
Sender: EC	Sender: Crew
Audience: Crew	Audience: EC
Layout: Text, Visual, Voice	Layout: Text
Medium: Mobile phone	Medium: Mobile phone
Delivery Channel: TMS	Delivery Channel: TMS
Body: Action 1.2 translated to message	Body: Action 1.3 translated to message

Evacuation Phase 2: Situation assessment

Start Event: Emergency investigation starts

End Event: Emergency confirmation

Evacuation Tasks: *T2.1*: Crew confirms the emergency situation and provides visual feedback

Message Actions: *A2.1*: Emergency situation confirmation and visual feedback

Message object 2.1:

Message Type: Communication Session

Sender: Crew

Audience: EC

Layout: Text, Visual, Voice, Video

Medium: Mobile phone

Delivery Channel: TMS

Body: Action 2.1 translated to message

Evacuation Phase 3: Decision to (or not) abandon the ship

Start Event: Emergency confirmation

End Event: Decision to (or not) abandon the ship

Evacuation Tasks: *T3.1:* Evaluation of the ship's condition and how fast the emergency escalates, *T3.2:* The Master decides to abandon ship, *T3.3:* The EC assumes position

Message Actions: No messaging Action

No messages at this phase

Evacuation Phase 4: Activation of evacuation protocol

Start Event: Launch of evacuation protocol

End Event: Crew assumes emergency posts and acknowledges position

Evacuation Tasks: *T4.1* Crew is instructed to assume emergency posts, *T4.2* Crew position is pinpointed, *T4.3* Crew at the designated posts - acknowledged, *T4.4* Passengers profiles creation

Message Actions: *A4.1:* Assume predesignated emergency posts, *A4.3:* Acknowledgement of position

Message object 4.1:

Message Type: Notifications

Sender: EC

Audience: Crew

Layout: Text, Visual

Medium: Mobile phone

Delivery Channel: TMS

Body: Action 4.1 translated to message

Message Object 4.3:

Type: Notifications (feedback)

Sender: Crew

Audience: EC

Layout: Text

Medium: Mobile phone

Delivery Channel: TMS

Body: Action 4.3 translated to message

Evacuation Phase 5: Alerting passengers

Start Event: Sound of the General Alarm

End Event: Alert messages delivered

Evacuation Tasks: *T5.1* Passengers receive cues of the emergency

Message Actions: *A5.1*: Emergency alert

Message object 5.1:

Message Type: Alerts

Sender: PaMEAS

Audience: Passengers

Layout: Text, Visual, Voice, Vibration

Medium: Mobile phone

Delivery Channel: EMS

Body: Action 5.1 translated to message

Evacuation Phase 6: Alerting passengers

Start Event: Mustering initiated (end of sending alert messages)

End Event: All passengers (counted) at Master Stations

Evacuation Tasks:

T6.1 Passengers Location Monitoring,

T6.2 Evacuation Warnings (immediate actions),

T6.3 Personalized Notifications on how to reach the muster station (escape paths),

T6.4 Localization of Passengers needing help (based on their health data),

T6.5 Personalized Notifications to passengers needing help (based on their health data),

T6.6 Crew Location Monitoring,

T6.7 Response unit dispatching to assist passengers needing help,

T6.8 Mustering Group performance monitoring,

T6.9 Personalized Evacuation Notifications to passengers - update,

T6.10 Counting passengers at the Muster Stations,

T6.11 Muster Stations' supervisors reporting all clear

Message Actions:

A6.2: Personalized warnings,

A6.3: Notifications on how to reach the muster station allocated to

A6.5: Notifications to passengers in need (based on their health data)

A6.7: Instructions to crew in order to provide help to passengers in need (based on their health data)

A6.9: Notifications on changing contingencies

Message object 6.2: Message Type: Warnings Sender: PaMEAS Audience: Passengers Layout: Visual, Text, Voice, Vibration Medium: Mobile phone Delivery Channel: EMS Body: Action 6.2 translated to message	Message Object 6.3: Type: Notifications Sender: PaMEAS Audience: Passengers Layout: Visual, Text Medium: Mobile phone Delivery Channel: EMS Body: Action 6.3 translated to message
---	--

Message object 6.5: Message Type: Notifications Sender: PaMEAS Audience: Passengers Layout: Visual, Text, Voice Medium: Mobile phone Delivery Channel: EMS Body: Action 6.5 translated to message	Message Object 6.7: Type: Notifications Sender: EC Audience: Crew Layout: Visual, Text, Voice Medium: Mobile phone Delivery Channel: TMS Body: Action 6.7 translated to message
---	---

Message object 6.8: Message Type: Warnings Sender: EC Audience: Crew Layout: Text, Visual, Voice Medium: Mobile phone Delivery Channel: TMS Body: Action 6.8 translated to message	Message object 6.9: Message Type: Notifications Sender: PaMEAS Audience: Passengers Layout: Text, Visual, Voice Medium: Mobile phone Delivery Channel: EMS Body: Action 6.9 translated to message
--	---

Evacuation Phase 7: Embarkation¹

Start Event: All passengers (counted) at Master Stations

End Event: All passengers (counted) on board the MEVs

Evacuation Tasks:

A7.1 T7.1 Moving passengers from Master Stations to Embarkation Stations,

A7.2 Personalized Notifications to passengers,

A7.3 Counting of passengers on-board the MEVs,

¹ including preparations for embarkation

A7.4 Embarkation Stations' supervisors reporting all clear

Message Actions:

A7.2: Send notifications to passengers

Message object 7.2:

Message Type: Notifications

Sender: PaMEAS

Audience: Passengers

Layout: Text, Visual, Voice

Medium: Mobile phone

Delivery Channel: EMS

Body: Action 7.2 translated to message

Evacuation Phase 8: Incident management

Start Event: Incident occurrence

End Event: Incident successfully managed

Evacuation Tasks:

T8.1 Bridge is informed about the incident,

T8.2 Localization of Passengers needing help (due to incident),

T8.3 Bridge decides how to respond and informs (assigned) crew to move to the incident location,

T8.4 Crew at the incident location - acknowledged,

T8.5 Notifications to passengers in need (due to incident),

T8.6 (if needed) Assigned crew provides feedback and receives instructions from the Bridge,

T8.7 Crew reporting all clear

Evacuation Tasks:

A8.2 Order to move to incident location,

A8.3 Acknowledgement of position,

A8.4 Notifications to passengers in need (due to incident),

A8.5 Real time interaction with the assigned crew member(s)

Message object 8.2:	Message Object 8.3:
Message Type: Notifications	Type: Notifications (feedback)
Sender: EC	Sender: Crew
Audience: Crew	Audience: EC
Layout: Visual, Text, Voice	Layout: Text
Medium: Mobile phone	Medium: Mobile phone
Delivery Channel: TMS	Delivery Channel: TMS
Body: Action 8.2 translated to message	Body: Action 8.3 translated to message

Message object 8.4:	Message Object 8.5:
Message Type: Notifications	Type: Communication Session
Sender: PaMEAS	Sender: EC, Crew Managers
Audience: Passengers	Audience: Crew
Layout: Visual, Text, Voice, Vibration	Layout: Visual, Text, Voice
Medium: Mobile phone	Medium: Mobile phone
Delivery Channel: EMS	Delivery Channel: TMS
Body: Action 8.4 translated to message	Body: Action 8.5 translated to message