



A holistic  
passenger  
ship  
evacuation  
and rescue  
ecosystem

# Work Package 2

Use Case Driven Requirements – Engineering and Architecture

Alexandros Koimtzoglou

National Technical University of Athens (NTUA)





# WP2 – Gantt Chart

Task	1	2	3	4	5	6	7	8	9	10	11	12	13 - 17	18	19	20	21	22	23	24	
	Jun 19	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 19	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun - Oct 20	Nov 20	Dec 20	Jan 21	Feb 21	Mar 21	Apr 21	May 21	
2.1									D2.1												
2.2												D2.2									D2.3
2.3												D2.4									D2.5
2.4												D2.6									D2.7

MS 4  
MS 5

# WP2 – Overall Progress (M18-M24)

- ▶ Conduction of online workshop on M23
- ▶ Conduction of a series of interviews with experts (9)
- ▶ Revision of the set of user requirements (2<sup>nd</sup> version)
- ▶ Revision of the elicited set of functional requirements based on user requirements (2<sup>nd</sup> version)
- ▶ Revision of the developed Use Cases scenarios (2<sup>nd</sup> version)
- ▶ Revision of the defined set of technical specifications of PALAEMON components (2<sup>nd</sup> version)
- ▶ Revision of PALAEMON Architecture (2<sup>nd</sup> and final version)



# T2.2: Stakeholders' Requirements

## T2.2 – 2<sup>nd</sup> iteration completed (M18-M24)

- ▶ Revision of stakeholders' needs:
  - ▶ 9 interviews with experts of the maritime field
  - ▶ Combine data gathered from online workshop (M23) (25 participants)
- ▶ Revision of elicited PALAEMON Functional Requirements, addition of new and full validation of them
- ▶ Presentation of the results of their validation and elicitation process
- ▶ Evaluation of the potential effect of passengers with disabilities to the evacuation process
- ▶ Map additional regulatory constrains
- ▶ GAP analysis



## T2.3: Reference Scenarios and Pilot Operations Specifications and KPIs

## T2.3 – 2<sup>nd</sup> iteration completed (M18-M24)

- ▶ Revision of the Use Cases scenarios (2<sup>nd</sup> version)
- ▶ Revision of elicited operational requirements
- ▶ Revision of identified KPIs to evaluate evacuation process
- ▶ Definition of application scenarios that help to explain the role of PALAEMON Smart Evacuation System in dealing with emergency conditions
  - ▶ These scenarios served as the basis for the design and organization of Project Piloting Activity within WP8 (deployment of the final testing of PALAEMON)



# T2.4: Architecture and Detailed Technical Specifications



## T2.4 – 2<sup>nd</sup> iteration completed (M18-M24)

- ▶ Gathering of technical requirements from technical providers
- ▶ Presentation of the final version of the PALAEMON Reference Architecture
- ▶ Definition of all the logical connections among the software components that shape the PALAEMON ICT platform
- ▶ Mapping of the correlation between the different states during a Maritime Emergency Evacuation (MEE) and the operation modes of the PALAEMON components
- ▶ Comparison between the legacy evacuation process and the innovation carried out through PALAEMON
- ▶ Update of the system requirements, the individual description of all PALAEMON components and the identification of their main features, inputs/outputs and connections with other modules and finally the representation of the end-to-end flows that cover the main data-related use cases
- ▶ Link to WP7 activities platform integration

# WP2 – Deliverables (M18-M24)

- ▶ D2.3: PALAEMON Requirement Capture Framework V2: Detailed report using formal description through UML (**submitted**)
  - ▶ Final version of user requirement for the PALAEMON system
  - ▶ Encompasses functional and operational requirements
- ▶ D2.5: Final version of PALAEMON Use Cases Definition & Operational Requirements (**submitted**)
  - ▶ Describes the use cases that will be taken into account for PALAEMON development
  - ▶ Describes the associated operational requirements
  - ▶ Final version of the document for PALAEMON V2
- ▶ D2.7: PALAEMON Architecture (V2) (**submitted**)
  - ▶ Second and final version of PALAEMON architecture
  - ▶ Describes of the high level architecture of the system traced with the user requirements

# WP2 – Deviations from the DoA (M18-M24)

## Use of Resources

- ▶ Submissions of the following Deliverables were delayed (prevailing conditions COVID19 issues):
  - ▶ **D2.3**, submitted on M25 instead on M24
  - ▶ **D2.5**, submitted on M28 instead on M24
  - ▶ **D2.7**, submitted on M26 instead on M24
- ▶ Use of resources
  - ▶ There was no major deviation for the use of resources

# NTUA Publications and Dissemination Activities

## ▶ Conference publications (peer reviewed papers)

- ▶ “Mass evacuation of large passenger ships: a state-of-the-art analysis- setting the foundations for the intelligent evacuation ecosystem PALAEMON” - Hellenic Institute of Marine Technology Annual Conference 2021
- ▶ “Evaluating risk during evacuation of large passenger ships: A smart risk assessment platform for decision support” - 6th International Conference on Maritime Technology and Engineering (MARTECH 2022)
- ▶ “Assessing the risk during mustering in large passenger vessels: A digital tool for real time decision support” - 19th International Congress of the International Maritime Association of the Mediterranean (IMAM 2022)

## ▶ Conference presentations

- ▶ “Introducing an innovative evacuation tool for passenger ships, The PALAEMON H2020 project” - World of Shipping Portugal 2021, An International Research Conference on Maritime Affairs

## ▶ Workshop

- ▶ On April 24, 2021 (M23), NTUA coordinated the second PALAEMON workshop (25 participants-external guests and consortium members) (online due to COVID19 measures)

# NTUA Publications and Dissemination Activities

## ▶ Dissemination events

- ▶ Participation in the Transport Research Arena 2022 Conference (TRA 2022)
  - “A digital tool for real time decision support in large passenger vessels”. Presentation in a joint session with Current Direct project and SEABAT project.
  - Participation at Waterborne Technology Platform booth with a poster

## ▶ Journal publications

- ▶ “A smart risk assessment tool for decision support during ship evacuation” - Special Issue “Selected Papers from MARTECH 2022, the 6<sup>th</sup> International Conference on Maritime Technology and Engineering”- Impact factor: 2.744 (*pending submission*)
- ▶ “Real time assessing the risk during mustering process in large passenger vessels” - Special issue of the Proc. of the Ins. of Mech. Eng., Part M: Journal of Engineering for the Maritime Environment (JEME) (*pending submission*)



# WP2 – Partners

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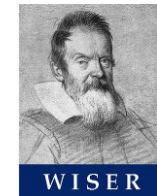
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A holistic  
passenger  
ship  
evacuation  
and rescue  
ecosystem

# Thank you

*'This project (PALAEMON) has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 814962'.*

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