



***17TH INTERNATIONAL CONFERENCE ON
SHIPS AND SHIPPING RESEARCH
&
ADVANCING WITH COMPOSITES 2012
SYMPOSIUM***

TIME SCHEDULE AND PROGRAM

***CENTRO CONGRESSI FEDERICO II
NAPOLI
17-19 OCTOBER 2012***

organised by



***Centro
Materiali
Compositi***

NAV 2012 - Time schedule

Wednesday 17th October 2012

Centro Congressi Federico II - Aula Magna

- 8:30 - 9:30 Registration
- 9:30 - 10:30 Conference opening
Welcome addresses
- 10:30 - 11:00 Invited speech of Guest Country

11:00 Coffee break

- 11:30 - 13:00 Workshop
Energy saving and High Efficiency Devices

13:15 - 14:15 Buffet lunch

Centro Congressi Federico II - Conference Rooms

14:30 - 18:30 Technical Sessions

Room A	Room B	Aula Magna
<i>The operational stream (1)</i>	<i>The research stream (1)</i>	<i>The economic, logistic and environmental issues stream (1)</i>
Conceptual & Practical Ship Design	Numerical & Experimental Hydrodynamics	Ship Management & Safety

Thursday 18th October 2012

Centro Congressi Federico II - Conference Rooms

9:00 - 13:00 Technical Sessions

Room A	Room B	Aula Magna
<i>The operational stream (2)</i>	<i>The research stream (2)</i>	<i>The economic, logistic and environmental issues stream (2)</i>
Concept & Practical Ship Design Warships Design and Technology	Numerical & Experimental Hydrodynamics Stability, Sea keeping & Maneuverability	Maritime Economics & Logistics Short Sea Shipping and Inland Navigation Human Factors - Comfort on board

13:30 - 14:30 Buffet lunch

Palazzo Reale di Napoli, Piazza Plebiscito

15:00 - 17:30

Social event - Guided visit of Palazzo Reale Interiors
(transfer from Centro Congressi by coach)

Angiporto Galleria, Napoli

17:30 - 18:30

Social event - Visit of the Ascione Corl Jewels Exhibition (*reservation required*)
(walking distance from Palazzo Reale)

Le Arcate, Via Aniello Falcone, 249

20:00 - 23:00

Social event - Gala Dinner (*dress code: formal*)
(transfer from Centro Congressi by coach)

Friday 19th October 2012

Centro Congressi Federico II - Conference Rooms

9:00 - 13:00 Technical Sessions

Room A	Room B	Aula Magna
<i>The operational stream (3)</i>	<i>The research stream (3)</i>	<i>Symposium on composites</i>
Environmental Impact of Marine Operations	Structural Design and Production Technology Offshore Vessel Design and Engineering	Innovative Fabrication Technologies Application of Advanced Composites Naval Composites Design Composites Durability and Reliability

13:15 - 14:15 Buffet lunch

14:30 - 17:00 Technical Sessions

Room A	Room B	Aula Magna
<i>The operational stream (4)</i>	<i>The research stream (4)</i>	<i>Workshop</i>
Yacht & Pleasure Craft Design Work Boats and Fishing Vessels	Ship Propulsion	Water Ballast Management

Centro Congressi Federico II - Aula Magna

18:00 Conclusions and conference closure

Conference Opening and Invited Speeches

Wednesday 17th October 2012

Time: 8:30 - 11:00

Centro Congressi Federico II - Aula Magna

Registration

Welcome addresses

- *Deans of the Universities Federico II and Parthenope*
- *Naples Municipality*
- *Campania Region*
- *Italian Navy / National Research Council*
- *Italian Ministry of Transportation*

Invited speech of the Guest Country

Greece, maritime industry and research centres

Panos Yannoulis, Oceanking Technical & Trading S.A., Piraeus

Time: 11:00 - Coffee break



The Operational Stream

Wednesday, 17th October 2012

Time: 14:30 - 18:30

Centro Congressi Federico II - Room A

Conceptual & Practical Ship Design (1)

Chairperson: Claire de Marco, University of Malta

Opening keynote lecture

Evolutional ship design concept for the final phase of EEDI

Noriuki Sasaki

Preliminary study of hull dimension optimization of medium-speed monohull passenger ferries

Wolter Roberth Hetharia, Philippe Rigo, Andre Hage

Low-Emissions of Small Crafts by Minimizing Hull's Drag: a Trimaran approach

Carmine Giuseppe Biancardi, J. Kutcher, R. Datla

Building no-standard and innovative vessels in high-standardized and production oriented Far-East shipyards: the ship-owner perspective

Enrico Allieri, Maria Garbarini

Benchmarking existing and new designs

Koos Willem Frouws

Time: 16:30 - Coffee break

Chairperson: Noriuki Sasaki, National Maritime Research Institute, Tokio

Concept for a Modular Nuclear Powered Merchant Ship

Jonathan Gravina

Electric drives for side-rolling hatch covers: an environmentally-friendly and economical solution

Dahl Torbjorn

A procedure for the preliminary selection of the main characteristics of a fleet of ships for a given trade

Giuliano Vernengo, Enrico Rizzuto, Roberto Longo, Angelo Lo Nigro

Ship added resistance evaluation in the perspective of decision making for energy saving

Paola Gualeni, Maurizio d'Amico, Giorgio Guadagna, Giovanni Colotto

A dashboard for a ship design space exploration

Francesco Perra, Aldo Guagnano, Alessandro Bonvicini

Thursday, 18th October 2012

Time: 9:00 - 13:00

Centro Congressi Federico II - Room A

Conceptual & Practical Ship Design (2)

Chairperson: Carmine Giuseppe Biancardi, University of Naples Parthenope

Energy Management: a holistic operational strategy to enhance ship energy efficiency of ships in service
Luca Sebastiani, Alessandro Pescetto

A ship knowledge based framework for the dashboard
Alessandro Bonvicini, Francesco Perra, Aldo Guagnano

Warship Design and Technology

Chairperson: Carmine Giuseppe Biancardi, University of Naples Parthenope

Rolling stability of surfacing submarine
Sergei L Karlinsky, Andrew V Efimov

Experimental and numerical investigation of the flow around a submarine snorkel mast
Salvatore Marrone, Benjamin Bouscasse, Andrea Colagrossi, Franco Di Ci, Marco Masia

Numerical Simulation of Full-Appended Submarine
Stefano Zaghi, Riccardo Broglio

Time: 10:15 - Coffee Break

Chairperson: Claudio Boccalatte, Italian Navy

A systematic approach for military vessels crew sizing and its validation by comparison with in service naval ships
Luigi Manfreda

Italian navy submarines air independent propulsion system: proton exchange membrane fuel cells reactants and technical gases production, storage and topping-up deployable station powered by renewable energy
Maurizio Cannarozzo, Gianpaolo Damiano Bono, Luca Rubini

Italian navy submarine search and rescue organization: assets, procedures, new projects
Maurizio Cannarozzo

The Italian Navy toward an alternative to fossil fuels for military use
Pasquale Tripodi

Amerigo Vespucci: propulsion and generation system retrofitting of the italian training tall ship
Lucio Piva

The Operational Stream

Friday, 19th October 2012

Time: 9:00 - 13:00

Centro Congressi Federico II - Room A

Environmental Impact of Marine Operations

Chairperson: John Wills, IMarEST, UK

CART Cooperative Autonomous Robotized Towing system
Ettore Ardito

Device and methods for the recovery of substances and/or liquid floating in open sea
Andrea Agrusta, Filippo Bianco, Giuseppe Perrella, Luigi Perrella, Igor Zotti

Monitoring of exhaust emissions: the path to environmental efficiency
Alessandro Stefani

Recent advances in the control of the impact of the underwater noise emissions by commercial ships
Tomaso Gaggero, Mike Van Der Schaar, Enrico Rizzuto, Michel André

An Economic Analysis of the Costs Effectiveness Function for Measuring Ships' Technology Abatement Potential
Jacobus Frouws, Christa Sys, Thierry Vanelslander, Gilbert Yella

Time: 10:30 - Coffee Break

Chairperson: Vadim Goncharov, Saint Petersburg State Marine Technical University, Russian Federation

Modelling the outdoor noise propagation for different ship types
Aglaia Badino, Davide Borelli, Tomaso Gaggero, Enrico Rizzuto, Corrado Schenone

Monitoring systems: a strategic tool to enhance ship energy efficiency
Alessandro Pescetto, Luca Sebastiani

Marine gas turbine pollutant emissions assessment
Giovanni Battista Benvenuto, Marco Altosole, Ugo Campora, Michele Martelli, Luca Bruga

The use of nautical X band radar systems for the sea state monitoring
Marcello Vivoli, Massimo Carmagnini, Giovanni Ludeno, Mauro Manente, Francesco Serafino

Recent and Imminent Environmental Regulations - Challenges and Opportunities for the International Shipping Community
Panos Yannoulis

Friday, 19th October 2012

Time: 14:30 - 17:00

Centro Congressi Federico II - Room A

Environmental Impact of Marine Operations (2)

Chairperson: Carlo Podenzana Bonvino, University of Genova

Key note oral presentation

The EU research effort towards the control of noise emissions from ships: the SILENV Project (Seventh Framework Programme)

Enrico Rizzuto

Shore-side power supply of ships as a possible solution to the environmental pollution in the harbours

Maurizio Fantauzzi, Luigi Battistelli, Tommaso Coppola, Franco Quaranta

Yacht and Pleasure Craft Design

Chairperson: Carlo Podenzana Bonvino, University of Genova

Stepped hulls: model experimental tests and sea trial data

Luigi Vitiello, Salvatore Miranda, Flavio Balsamo, Sebastiano Caldarella

A new proposal for the propulsion of a hybrid motor-sailer catamaran

Vittorio Bucci, Alberto Marinò

ANN Wind Forecast for Safety at Sea and Yacht Racing Tactics

Francesca Tagliaferri, Robert Dow, Ignazio Maria Viola

Time: 15:30 - Coffee break

Chairperson: Gaetano Messina, ATENA

Experimental and numerical evaluation of an innovative planning hull

Filippo Cucinotta, Baldo Bono, Eugenio Guglielmino, Igor Zotti

Influence of the "Safe Return to Port" standards on the integrated design and arrangements of small passenger ships

Vittorio Bucci, Alberto Marino'

Multifunctional Catamaran

Luca Carboni

Workboats and Fishing Vessels

Chairperson: Gaetano Messina, ATENA

Energy performance evaluation for fishing vessels

Emilio Notti, Antonello Sala, Gabriele Buglioni

The Research Stream

Wednesday, 17th October 2012

Time: 14:30 - 18:00

Centro Congressi Federico II - Room B

Numerical and Experimental Hydrodynamics (1)

Chairperson: Carl Erik Janson, Chalmers University, Sweden

Effective Power Requirements for High Speed Catamarans in Calm Water during the Preliminary Design Stage

Renato Skejic

Flow survey of a catamaran model in steady drift

Riccardo Broglia, Giovanni Aloisio, Massimo Falchi, Silvano Grizzi, Stefano Zaghi, Mario Felli, Massimo Miozzi, Francisco Pereira, Fabio Di Felice, Frederick Stern

Design and analysis of conventional and ducted propellers: a numerical approach

Stefano Gaggero, Diego Villa, Stefano Brizzolaro

Cavitation Tunnel Tests on Ducted Propellers

Michele Viviani, Cesare Mario Rizzo, Chiara Bertoglio, Daniele Bertetta, Francesco Conti

Time: 16:00 - Coffee Break

Chairperson: Igor Zotti, University of Trieste

Extended Newman's approximation for the second order drift force in short crested waves

Alexandre Robin Giovanni Azzalini, Shuangxing Du, Richard Antony May

Openship Project - Numerical predictions of ship and propeller hydrodynamics by CFD: results from preliminary benchmark

Giorgio Contento, Norman Del Puppo, Guido Lupieri, Mitja Morgut, Enrico Nobile, Genuzio Harpo, Gianpiero Lavini

An Efficient Viscous/ Inviscid Coupling Method for the Prognosis of Propeller-Induced Hull Pressure Fluctuations

Stephan Berger, M. Bauer, M. Drukenbrod, M. Abdel-Maksoud

Added resistance determination in regular sea according to ittc recommendation

Ermina Begovic, Andrea Bove, Paolo Fusco, Salvatore Miranda

Thursday, 18th October 2012

Time: 9:00 - 13:00

Centro Congressi Federico II - Room B

Numerical and Experimental Hydrodynamics (2)

Chairperson: Milorad Motok, University of Belgrade

Unconventional Interceptors: Experimental Study on Resistance Reduction and Dynamic Instability
Claudio Pensa, Fabio De Luca

A stable semi-lagrangian potential method for the simulation of ship interaction with unsteady and nonlinear waves

Antonio De Simone, Luca Heltai, Andrea Mola

Stability, Seakeeping and Maneuvrability

Chairperson: Milorad Motok, University of Belgrade

Operational efficiency at sea of a new oceanographic vessel at the design stage: a detailed study over the central Mediterranean sea using medium resolution hindcast wave data

Giorgio Contento, Francesca Mocnik, Guido Lupieri, Marco Parapetto, Gabriele Catapano

Time domain prediction of motions of marine vehicles in waves

Cristina Gironi, Dario Bruzzone

Time: 10:30 - Coffee Break

Chairperson: Luca Sebastiani, SEASTEMA SpA, Italy

High speed fluttering skids with elastic suspensions

Gianluca Pepe, Antonio Carcaterra

A Fully Nonlinear Potential Flow Method for Three-Dimensional Body Motions

Martin Kjellberg, Giorgio Contento, Carl-Erik Janson

A parametric prediction of added resistance in waves

Cristina Gironi, Enrico Rizzuto, Dario Bruzzone

Subdivision and damage stability: the maxVCG method

Maria Acanfora, Tommaso Coppola, Fabio De Luca

Friday, 19th October 2012

Time: 9:00 - 13:00

Centro Congressi Federico II - Room B

Structural Design and Production Technology

Chairperson: Eugenio Guglielmino, University of Messina

Residual strength of damaged oil tanker in the adriatic sea
Jo Parunov, Zrinka Buri, Branka Buzancic Primorac

Response of a ship structural detail under low cycle fatigue loading
Vincenzo Crupi, Wolfgang Fricke, Eugenio Guglielmino, Luciano Musumeci, Hans Paetzold

Preliminary design of water breakers' platings for container ships
Antonio Scamardella, Vincenzo Piscopo

Time: 10:30 - Coffee break

Offshore Vessel Design and Engineering

Chairperson: Antonio Paciolla, University of Naples Federico II

Dual compensation control-system for offshore logistic equipment
Luigi Cannizzaro, Antonio Giallanza, Giuseppe Marannano

The Longest Floating Bridge Connecting Two Continents: TRANSMAR
Metin Taylan, Yalcin Unsan

Experimental and Analytical Methods in FSRU Bilge Keels Design
Federico Gaggiotti, Andrea Esposito, Andrea Del Guzzo, Cristian Alberto Rossetti

Friday, 19th October 2012

Time: 14:30 - 17:00

Centro Congressi Federico II - Room B

Ship Propulsion

Chairperson: Giovanni Battista Benvenuto, University of Genova

Effects of mass and inertia changes on the equations of motion of a vessel
Massimo Figari, Stefano Vignolo

"99 Xvintage project" the Wartsila Dual Fuel solution for a breakthrough concept
Stefano de Marco

Hydro-lock phenomena on Four Stroke Medium Speed Marine Diesel Engines
Giulio Gennaro, Andrea Gennaro

Time: 15:30 - Coffee Break

Chairperson: Mario Maestro, University of Trieste

Dynamic Simulation of a COGAS Ship Propulsion Plant
Giovanni Benvenuto, Daniele Bertetta, Ugo Campora, Federico Carollo

Hybrid propulsion by gas engines for an ASD harbour tug
Massimo Altosole, Massimo Figari, Luca Martinelli, M.Raimondi

A computer program for predict the resistance and power of ship
Blenard Xhaferaj, Agron Dukaj

The Economic, logistic and environmental issues stream

Wednesday, 17th October 2012

Time: 14:30 - 18:30

Centro Congressi Federico II - Aula Magna

Ship Management and Safety

Chairperson: Umberto Masucci, Federagenti

Criterion for comparison of risks at planning of navigation in ice conditions

Vadim K. Goncharov

Reflections on the sidelines of a shipwreck

Silvia Piardi, Irene Pasina, Silvia Tieghi

Product innovation in Maritime Satellite Communications

Gennaro Faella

Interaction of ships under navigation in ice conditions

Vadim K. Goncharov

Time: 16:30 - Coffee break

Chairperson: Maurizio d'Amico, Società d'Amico di Navigazione

A new mean of validation of maritime systems through an extensive application of formal safety assessment

Francesca Matarese, Daniela Dell'Amura

Seasonal bias in the voluntary ship observations of significant wave height in a North Atlantic location

Carlos Guedes Soares, Roberto Vettor

An innovative methodology for maritime security risk management to design cost-effective defence systems

Francesca Matarese, Patrizia Montefusco, José Fonseca

Marine Accident Analysis with GIS

Ozkan Ugurlu, Umut Yildirim, Ercan Yukseyildiz

Thursday, 18th October 2012

Time: 9:00 - 13:00

Centro Congressi Federico II - Aula Magna

Maritime Economics and Logistics

Chairperson: Federica Valdenazzi, CETENA

Key note oral presentation

Italian Shipping and present problems: an overview by a young shipowner

Andrea Garolla

The relationship between the Boone indicator and the Herfindahl Hirschman Index

Christa Sys

The Cost of Damage

Alessio Gnecco

Human Factor and Comfort on board

Chairperson: Federica Valdenazzi, CETENA

Training staff of ships cruise in the context of risk: strategies for effective communication

Maria Luisa Iavarone

Time: 10:30 - Coffee break

Chairperson: Christa Sys, University of Antwerp

A methodology for the numerical prediction of propeller tonal noise

Federica Valdenazzi, Francesco De Lorenzo

Short Sea Shipping & Inland Navigation

Chairperson: Christa Sys, University of Antwerp

Investigation of Short Sea Shipping Policy, Service and Lines in Turkey

Arife Tugsan Isaicik Colak, Sevilay Can

Integrating ship design and transport economics in an application for the reactivation of the small inland shipping network

Edwin van Hassel

Advancing with Composites 2012 Symposium

Friday, 19th October 2012

Time: 9:00 - 11:00

Centro Congressi Federico II - Aula Magna

Chairperson: Ignazio Crivelli Visconti, AMME, Italy

Opening keynote lecture

Composites in the Marine Environment - Challenges and Recent Advances

Yapa D.S. Rajapakse

Innovative Fabrication Technologies

Hybrid Composite Hull Panels Fabricated Using Vacuum Bagging Techniques

Claire De Marco Muscat-Fenech, Jeremy Cortis, Charles Cassar

Biocomposites for Structural Applications in Marine Field

Andrea Ratti

Application of Advanced Composites

Fiber-metal hybrid laminated material solution for Shipbuilding and Offshore renewable energy devices

Miguel Angel Herrerros Sierra

Design of composite patch repairs of naval structures

Giovanni Risso, Elena Rodriguez, Izabela Lubowiecka, Edgar Brais Blanco

Time: 11:00 - Coffee break

Chairperson: Yapa D.S. Rajapaske, US Navy, Office of Naval Research

Naval composite design

Structural optimization of innovative rudder and flap for HSC

Antonio Giallanza, Giuseppe Marannano, Antonino Pasta

Modelling the Post-Elastic Response of Composite Structures Loaded Dynamically

Roberta Massabo

Composites Durability and Reliability

Disposal to End of Life of Composites Leisure Yachts

Andrea Giovani

Durability of Vinylester and Carbon/Vinylester Exposed To Seawater

Leif A. Carlsson, Alex Figliolini

Workshops

Energy saving and High Efficiency Devices

Wednesday, 17th October 2012

Time: 11:30 - 13:00

Centro Congressi Federico II - Aula Magna

Chairperson: Umberto d'Amato , Perseveranza Compagnia di Navigazione, Italy

Panelists:

- *Walther Bauer, Becker Marine Systems*
- *Dario Bocchetti, Grimaldi Napoli*
- *Andrea Cogliolo, RINA*
- *Giorgio Fabbì, International Paint*
- *Ernesto Fasano, University of Naples*
- *Adam Larsson, DNV*
- *Luca Martinelli, Rosetti Marino Shipyard*
- *Gyrd Mortensen, Novenco Marine & Offshore*
- *...and more from the audience*

Water Ballast Management

Friday, 19th October 2012

Time: 14:30 - 17:00

Centro Congressi Federico II - Aula Magna

Chairperson: Massimo de Domenico, Fratelli d'Amico Armatori S.p.A., Italy

Panelists:

- *Dario Cacciottoli, Warsila Hamworthy*
- *Roberto Comelli, Alfa Laval*
- *Pawel Kowal, Ocean Saver AS - Consilium*
- *Stefan Resaz, Panasia - Jobson Italy*
- *Nello Sulfaro, RINA SpA*
- *...and more from the audience*

NAV 2012 Organisation

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INTERNATIONAL SCIENTIFIC COMMITTEE

An international committee, chaired by Prof. Mario Maestro of the University of Trieste, was established with the participation of representatives of international academic institutions and relevant industry sectors.

About 130 abstracts were submitted for the critical consideration of the tracking administrators and the peer reviewers, and, after this screening, the selected papers were subject to final review and recommendations from the reviewers.

The high scientific value of the papers presented to NAV 2012 has therefore been amply assured.

ABOUT NAV

The Conferences were initiated in 1974 as “Scientific Conference of Gruppo Automazione Navale e Problemi delle Grandi Navi”, to be held every two years under the patronage of CETENA and the Italian CNR - National Research Council. NAV 2012 in Naples is the 17th Conference, previous ones having been held all over Italy, specifically in: Rome (1974), Naples (1976), Trieste (1978), Genoa (1980), Naples (1982), Venice (1984), Palermo (1986), Trieste (1988), Ancona (1990), Genoa (1992), Rome (1994), Sorrento (1997), Venice (2000), Palermo (2003), Genoa (2006), Messina (2009).

ABOUT ATENA

ATENA, the Italian Association of Naval Technology, is a cultural non-profit organization founded in 1948 by the Italian College of Naval and Mechanical Engineers in Genova. The Association aims to promote maritime culture, disseminate the latest scientific and technical findings in naval engineering and offshore industries, and encourage developments in related fields.

The Association pursues its statutory objectives through publications (journals, memoirs, magazines, newspapers, websites, social media, etc.) as well as through the organization of congresses, conferences, debates, and technical committees for the study of specific problems and implementation of specific programmes. Its members contribute professionally to the design, construction, and operation of all kinds of marine craft, with a focus on transport safety and the protection of the marine environment.

THE UNIVERSITY FEDERICO II

The founding of the University of Naples, which today is known as “Federico II”, was made possible by the *generalis lictera* of the Swabian Emperor, sent from Syracuse on June 5, 1224. The Emperor, who was also king of Sicily, designated as the seat of the *studium generale* of the kingdom a town in the Campanian region, which already had a tradition of learning. The new University is therefore the oldest of those still existing to be founded by sovereign dictate (usually they were the result of corporate initiatives from below). The Faculty of Engineering of the University of Naples Federico II, one of the oldest in Italy, has its origins in the School of Application for Engineers of Bridges and Roads, established in 1811 by Joachim Murat during the French occupation of the Kingdom of Naples. Established as a Polytechnic School in the early 1900s, it became a Faculty of the University of Naples in 1935.

THE UNIVERSITY PARTHENOPE

The origin of the University of Naples “Parthenope” (ex Istituto Universitario Navale) dates back to 1919, when the Regio Istituto di Incoraggiamento di Napoli, together with the Government and Institution, stated its objective of establishing a higher centre of culture in which the sea was “designed as it is, as it produces and as a medium of exchange”. Alongside the development of scientific culture, the centre of culture was to prepare minds to consider a “conscious exploitation of the economic problems related to the sea”. It was therefore a clear cultural and social imperative on the part of the local Authorities which led to the birth of the cultural centre, which was recognised under RD No 1157, 30 May 1920. The Regio Istituto Universitario Navale was divided into sections: Teaching, training of teachers in nautical disciplines, owners, training of managers of ship-owners, marine insurance, etc.

THE CENTRE FOR COMPOSITE MATERIALS

The Centre for Composite Materials (CMC) was established in the mid-70s with the aim of increasing knowledge about composite materials on the part of industries, universities and interested people by means of national and international conferences, meetings, and technical courses. It operates within the National Mechanical Society, with strong co-operation with DIMP, the Materials and Production Engineering Department of the University of Naples Federico II. CMC also has strong connections with ESCM, the European Society for Composite materials, being one of the founder members of this Society in the mid-80s.

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