Naval Architecture and Ocean Engineering Master Program

Universidad Politécnica de Madrid UPM
Naval Architecture, Maritime and
Ocean Engineering School ETSIN

POLITÉCNICA

ESCUELA TÉCNICA SUPERIOR DE
INGENIEROS NAVALES

Available courses in English per semester for local and Erasmus students

Year 2024 —2025

Naval Architecture Maritime, and Ocean Engineering School ETSIN

Founded in 1772 by king Carlos III, our School has been serving the Spanish and European society for more than 250 years. Now we are integrated in the Technical University of Madrid (UPM).

The scope of our programs include ability to prepare, build and maintain ships and ocean artifacts, knowledge of naval hydrodynamics, analysis of power plants and ship propulsion and knowledge of economics and business management in maritime context among other abilities.

Our official programs include:

- Bachelor on Naval Architecture
- Bachelor on Maritime Engineering
- Master on Naval Architecture and Ocean Engineering

Our Bachelor programs are taught in Spanish. A number of courses (presented herein) in the master program are taught in English.

- **Decarbonisation and Climate Change**
- **Structures**
- **Digital Transformation**
- **Yacht Design**
- **Offshore Engineering and Ocean Renewable Energy**.

Internationalization

ETSIN by means of UPM international delegations is present in the five continents, highlighting the ones in US, China and Brazil.

Currently, ETSIN has more than 20 international agreements with highly esteemed European, American and Asian universities, with different exchange programs such as ERASMUS+, Athens, Magalhães, Global E3, etc. We also have an **ERASMUS MUNDUS Master Program** with several European Universities.

Trainning and Practice

As part of our Bachelor and Master Programs, our student can complete their studies with a profesional stage at a Company, Department or Research Institution. Currently, we maintain educational cooperation agreements with more than 30 leading national and international companies in their sectors, among others: Navantia, PYMAR, ANAVE, Siport, Siemens, Iberdrola, INTA-CEHIPAR, etc.

Doctorate

This program completes the three cycles of the University programs in the area of Naval Architecture and Maritime and Ocean Engineering. Our aim is to provide society with Doctors which are able to promote research and innovation on this area. The ultimate object is to promote a sustainable use of oceans. Among our lines of interest are: advanced hydrodynamics, both experimental and numerical, design of ships and ocean artifacts, fuel cells applied to ocean engineering, structures and materials, aquaculture, safety, maritime transport and renewable energy, among other lines.

Online Presentation of Master's Courses

There will be online presentations of the master courses. During those presentations, some of the professors involved in the courses will be present as well as fellow students. Date/times for these presentations will be announced in this **link**.

Also, you can write an email **marta.ruiz@upm.es** and you will be notified of dates/times/zoom-link.

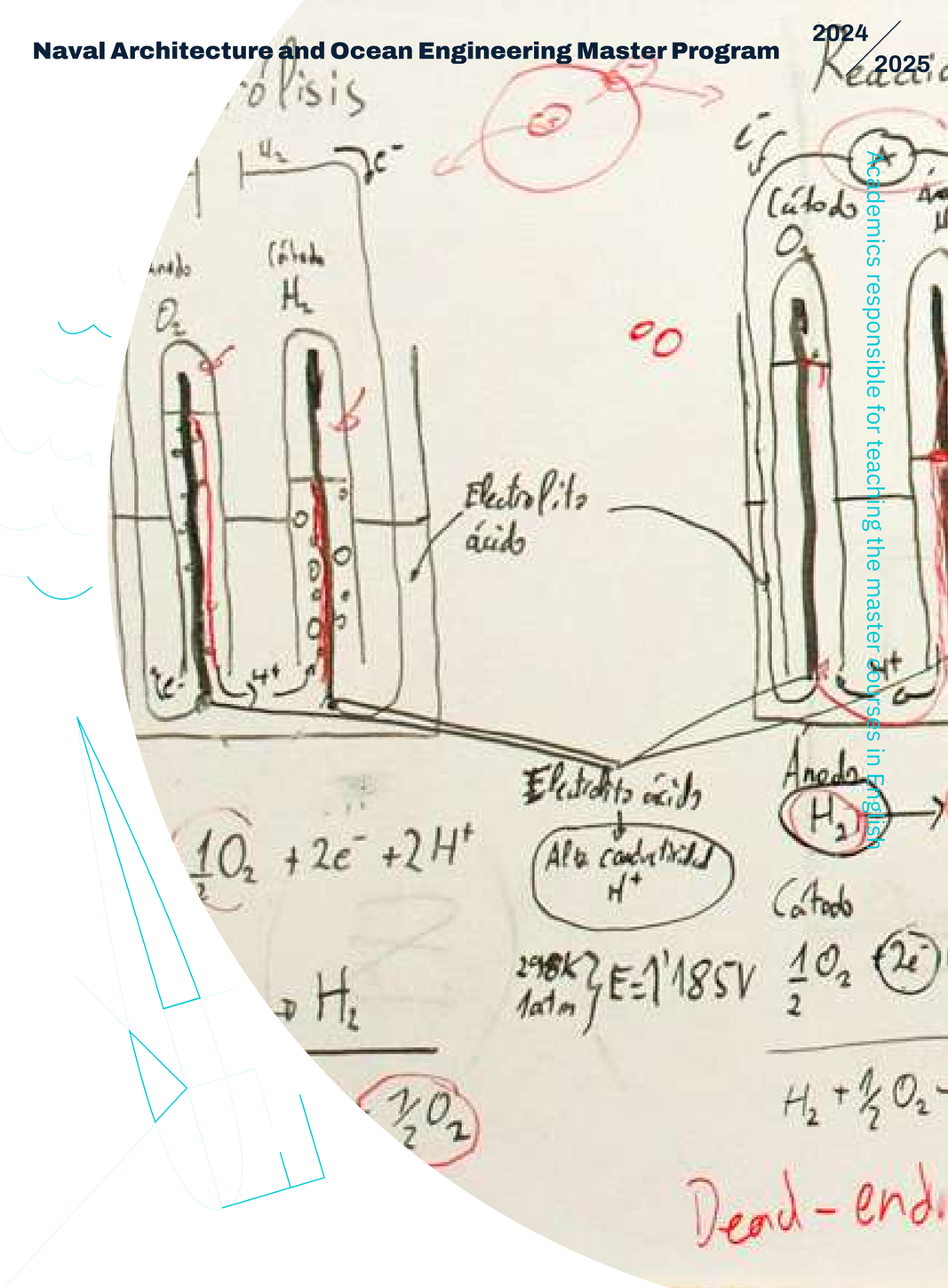
A presentation of this kind took place on November, 16th, 2023. It can be found in this **link**.

Available courses in English per semester in UPM
Naval Arquitecture and Ocean Engineering Master Program

AUTUMN SEMESTER — **52 ECTS**	**SPRING** SEMESTER — **49.5 ECTS**
Project and Construction of Offshore Systems 83000131 5ECTS	**Advanced Yacht Design** 83000105 6ECTS
Hydrodynamic simulation in marine renewables and offshore operations 83000116 6ECTS	**Dynamics of Offshore Systems** 83000008 4.5ECTS
Power plants and alternative fuels in the marine environment 83000089 6ECTS	**Ship Dynamics** 83000007 4ECTS
Nuclear energy in surface ships, submarines and floating systems 83000088 6ECTS	**Advanced Design of Naval and Offshore Structures** 83000095 6ECTS
Integrated Management of Marine Renewable Installations 83000117 6ECT	**Digital Transformation Projects** 83000100 6ECTS
Integrated Logistics Support 83000004 3ECTS	**Advanced Ship Hydrodynamics** 83000006 4ECTS
Advanced Mathematics 83000024 5ECTS	**Hydrodynamics of Hulls and Propellers** 83000087 4ECTS
Master Thesis 83000020 15ECTS	**Master Thesis** 83000020 15ECTS

Academics responsible for teaching the master courses in English

Antonio Crucelaegui Corvinos	Integrated Logistics Support
Antonio Medina Manuel	Hydrodynamic simulation in marine renewables and offshore operations
Antonio Souto-Iglesias	Dynamics of Offshore Systems Ship Dynamics Hydrodynamics of Hulls and Propellers Advanced Ship Hydrodynamics
Diana Cuervo Gómez	Nuclear energy in surface ships, submarines, and floating systems
Fabricio Maciá	Advanced Mathematics
Francisco Mata Álvarez-Santullano	Hydrodynamics of Hulls and Propellers Ship Dynamics
Jaime Moreu Gamazo	Advanced Design of Naval and Offshore Structures
Javier Calderón Sánchez	Hydrodynamic simulation in marine renewables and offshore operations Ship Dynamics Advanced Ship Hydrodynamics



Academics responsible for teaching the master courses in English

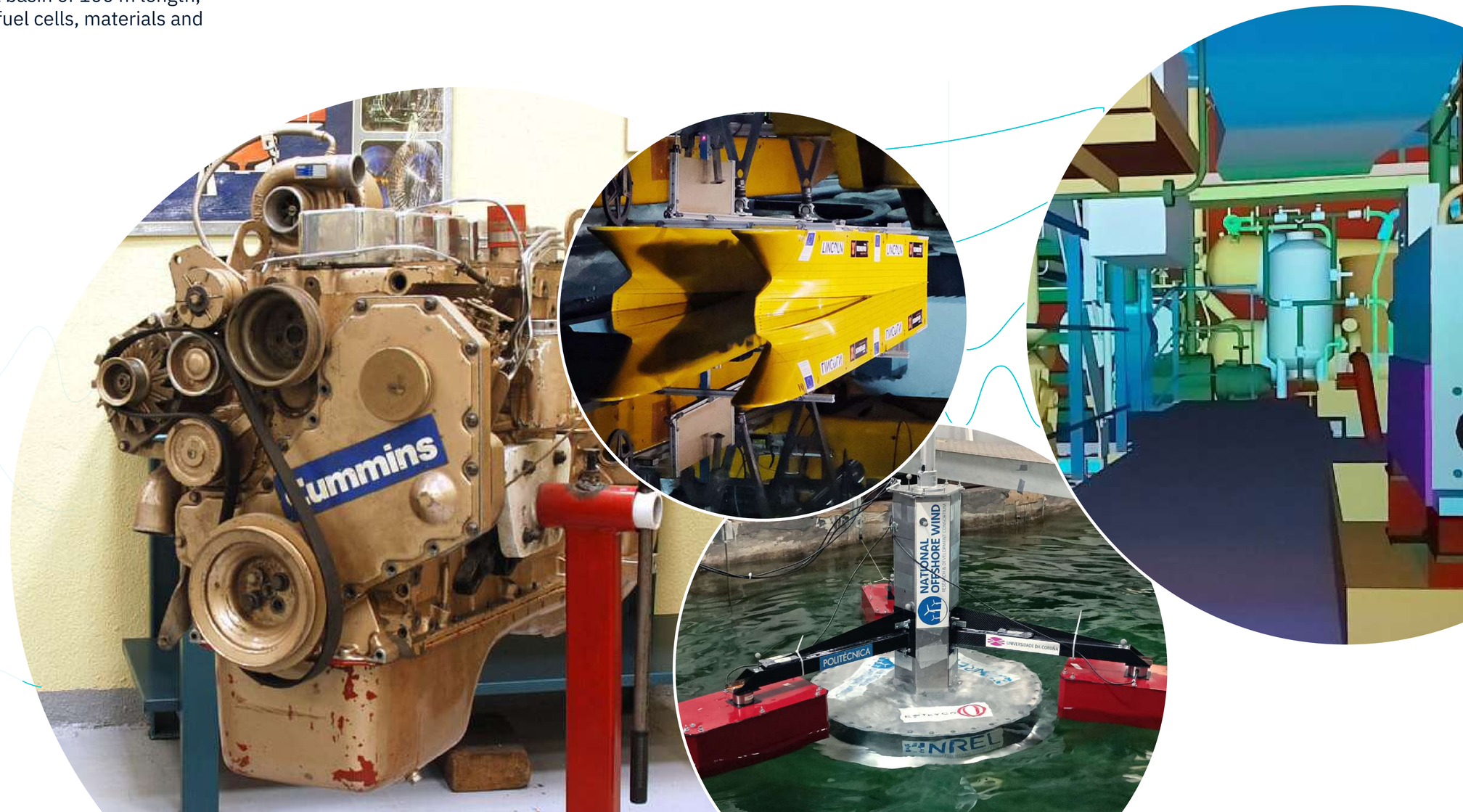
José Luis Morán	Integrated Management of Marine Renewable Installations
Julio García Espinosa	Integrated Management of Marine Renewable Installations
Manolo Ruiz de Elvira	Advanced Yacht Design
Miguel Taboada Gosálvez	Project and Construction of Offshore Systems
Rafael D´Amore Domenech	Power plants and alternative fuels in the marine environment
Rafael de Góngora Escrivá de Romaní	Digital Transformation Projects
Rodrigo Pérez Fernández	Digital Transformation Projects
All faculty: to be agreed upon.	Master Thesis

Manolo Ruiz de Elvira. America's cup designer. 4 times winner. Advanced Yacht Design course

Academics responsible for teaching the master courses in English

Facilities

Among our facilities we have a large model basin of 100 m length, 3D visualization facility, motor test banks, fuel cells, materials and electrotechnical laboratories.



Accomodation

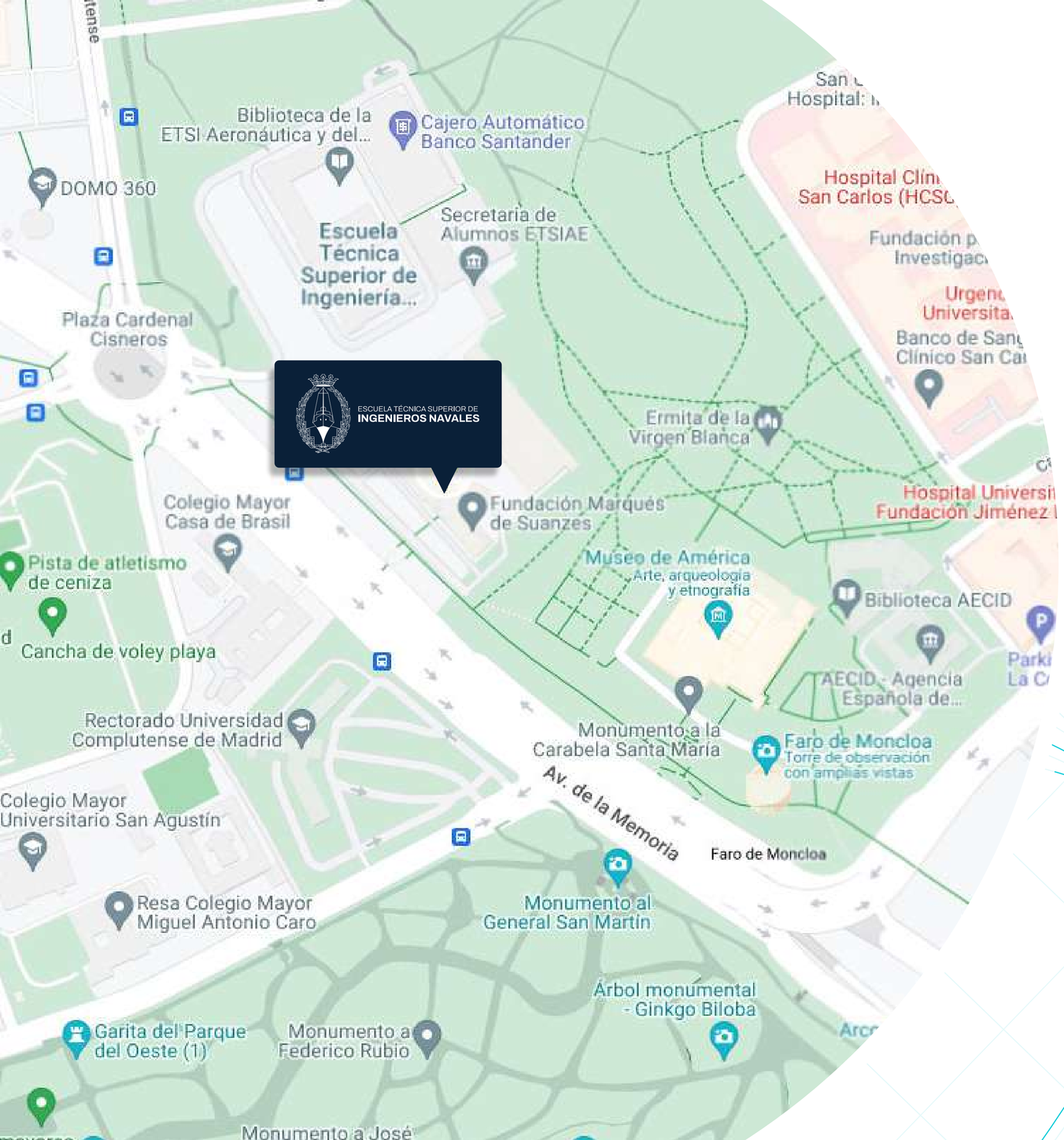
The best way to find accommodation is to check the different possibilities available in order to book provisional accommodation in Madrid before you arrive.

If you have not organised accommodation in advance, it is recommended that you arrive to Madrid at least 10 days before the course begins so that you can arrange you accommodation. You can go to the Student Accommodation Office (Oficina de Alojamiento de Estudiantes), to the Student Mobility Office (Oficina de Movilidad de Estudiantes) and/or to ETSIN Practice and Mobility Office.

More information can be found **here**.

#NotOnlyAcademics

There are plenty of student associations, such as sport club, model kit club, IT club, sailing club, tuna (a group that sing and play guitar, lute and bandurria) and alumni ETSIN. There are also teams of students that have participated in international engineering competitions such as Hydrocontest, RoboSub, etc.



Location and contact

We are few underground stops to Madrid downtown (Puerta del Sol)

C7QG+J8 Madrid

Avda. de la Memoria, 4 28040 Madrid (Spain)

General Phone
+34 910 676 100

International Office
+34 910 676 112

e-mail
oficina.internacional.navales@upm.es

POLITÉCNICA

ESCUELA TÉCNICA SUPERIOR DE
INGENIEROS NAVALES