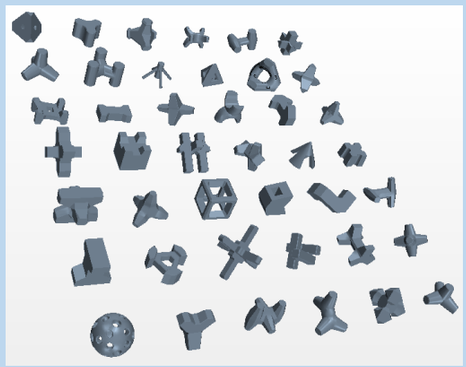
BIG ENGINEERING STRUCTURES

@TimoteoBriet

PROTECTION BLOCKS



The protection blocks, are some structures that are placed in zones near Ports mainly, with the objective to mitigate or to eliminate the energy that contains the continuous wave: there are a lot types or models: x-blocks, Accropodes, Tetrapods, Cubipods, etc….

Until very recently, the choice of protection blocks or others, was based on analysis and studies conducted in hydrodynamic channels, with the aim of comparing and observing their efficiencies:

The CFD Analysis, allows an enormous reduction of the economic investment, to carry out tests in Water Channels, in addition to reducing the times of analysis and study.

Basically, 7 activities or fields:

Protection Blocks

Barriers in ports

Offshore Structures

Eolic generators

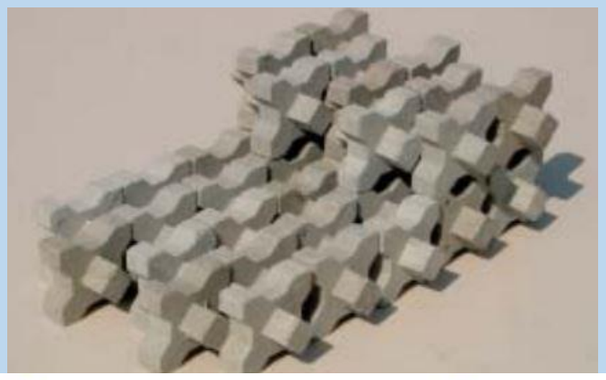
Waves reflection in ports

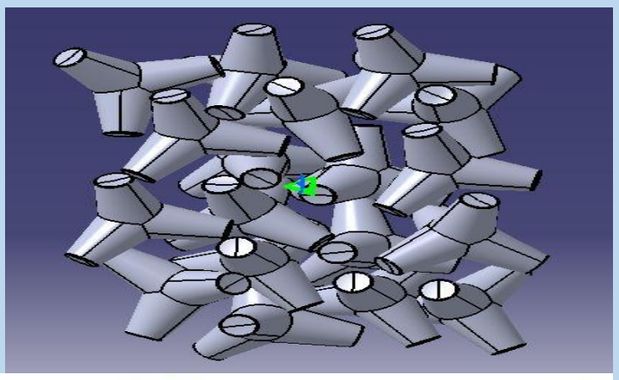
Waves evolution

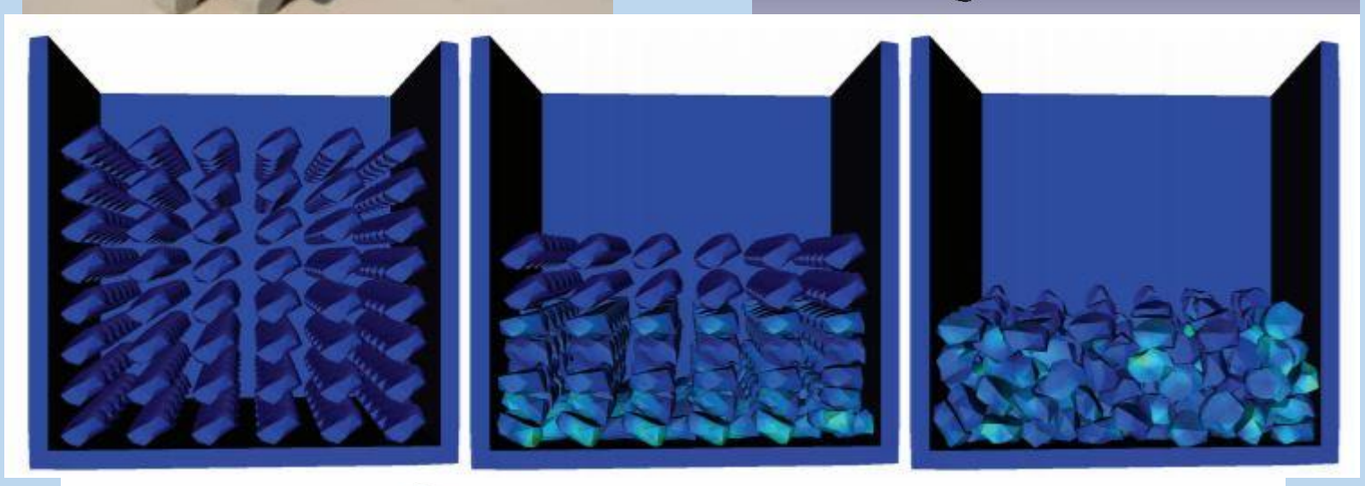
Antireflecting waves elements

There are several colocation-types of protection blocks on the seabed, as well as barriers:
- Some protection blocks are arranged in a very particular form, which depends on their geometry.
- Others, on the other hand, are almost randomly arranged, as if a truck or crane unloaded the blocks and let them fall freely.

Our protocol can do one thing or the other:
- Particular disposition.
- Random disposition.



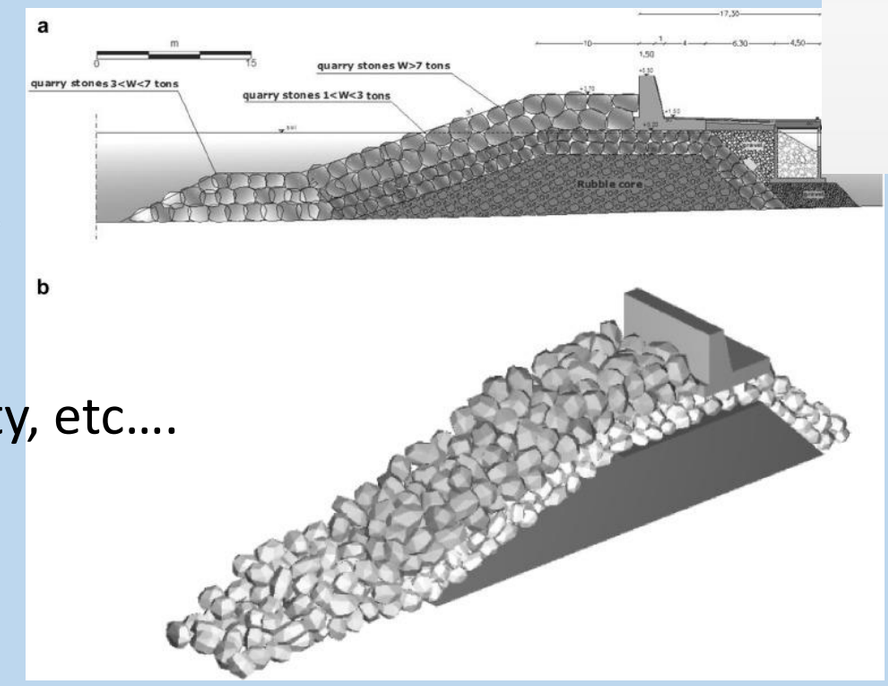




We start from a disposition of blocks, on a geometry of barrier, which, will be the same in any analysis, with the objective to be able to compare diverse geometries and dispositions.

We place the water level at a certain height and produce a series of waves.
These waves can be configured according to several parameters:
- speed wave advance.
- frequency.
- width.
- height.
- wave number.
- etc….

Also wind velocity, etc….



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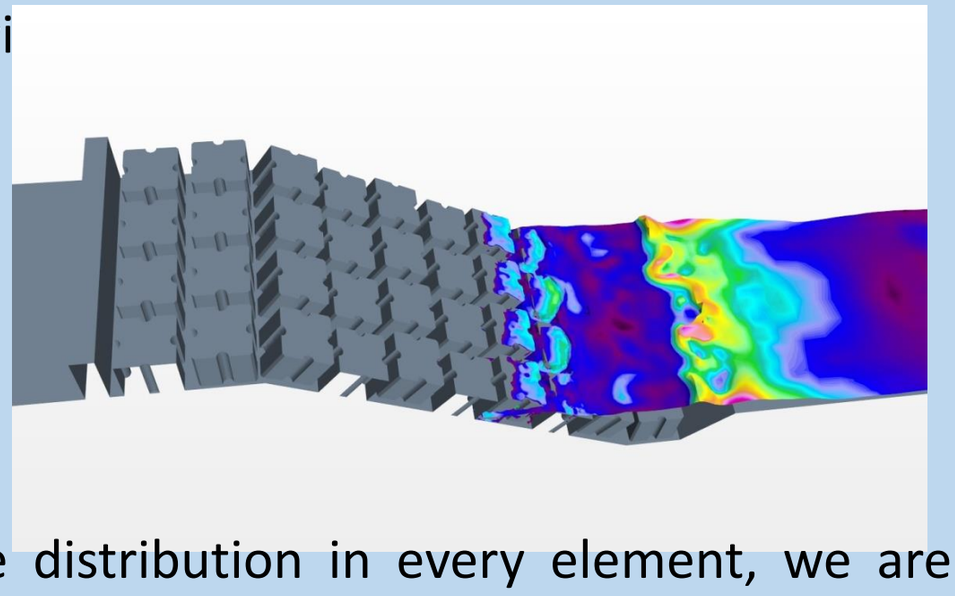
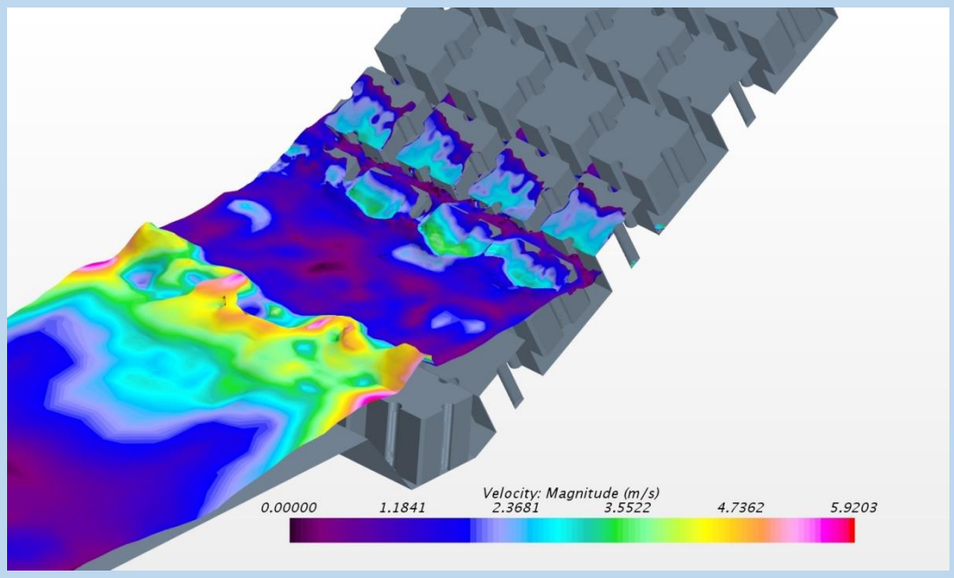
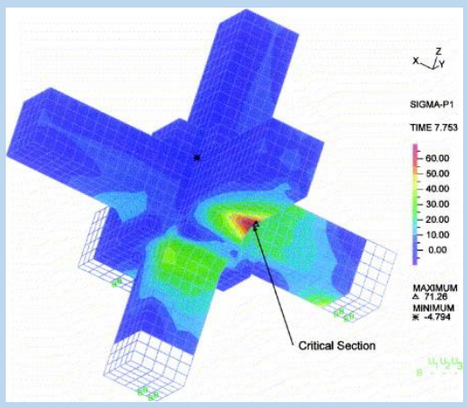
It is also possible to configure the speed and direction of wi
The results that can be obtained are very diverse:

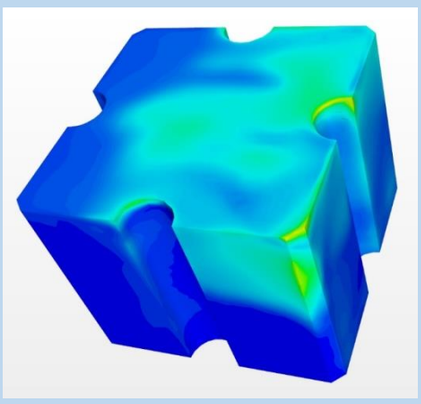
- forces-pressures on the blocks.
- forces-pressures on each block.
- map-distribution of pressures on each block.
- height-energy of the waves incidents.
- height-energy of reflected waves.
- Turbulent kinetic energy zones-map.
- Velocities.
- etc....



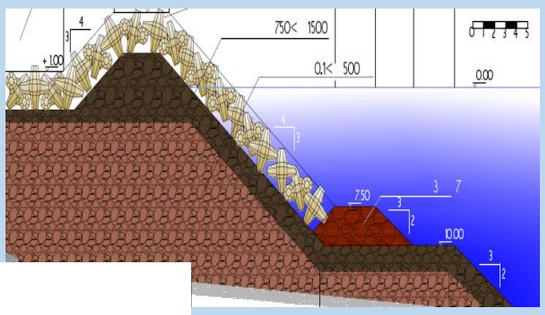
From pressure distribution in every element, we are able to calculate the structure forces (from water pressure and elements weight forces), in order to know the fatigue and stress. This analysis is based in Finite Elements:

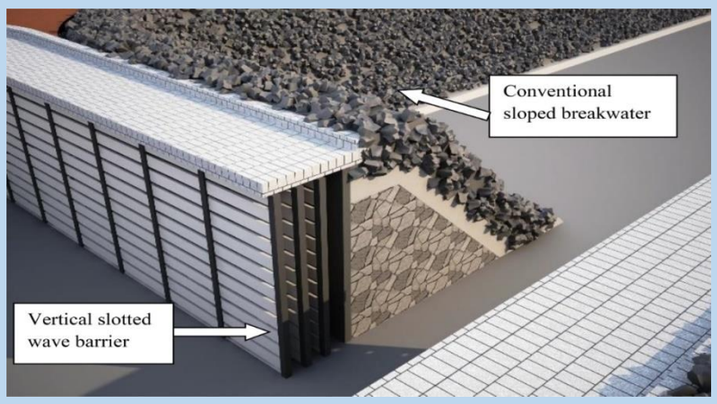




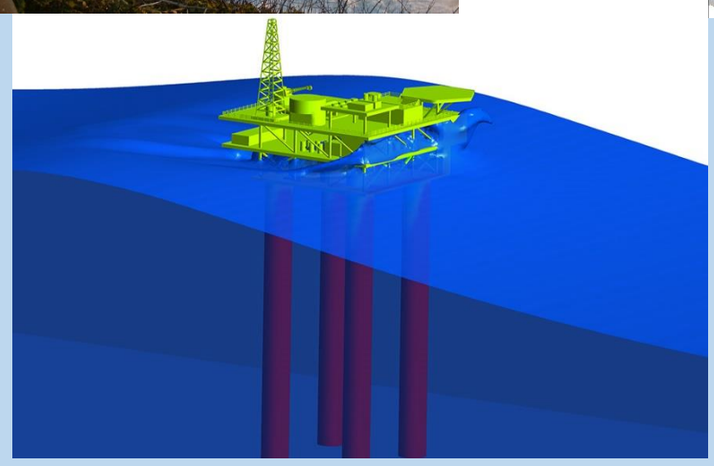


BARRIERS IN PORTS





Forces in barriers-walls verticals / with inclination.

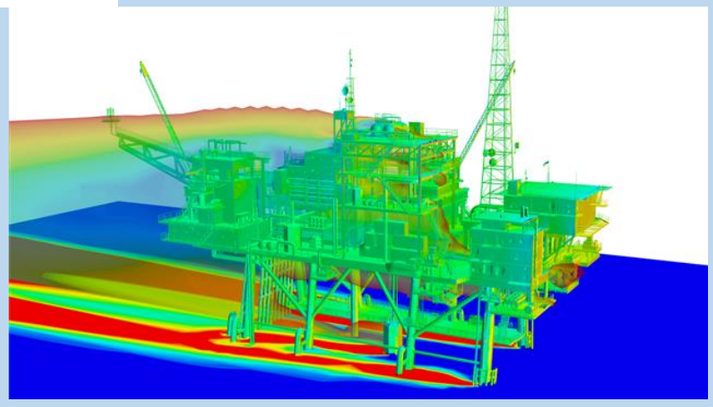


OFFSHORE STRUCTURES

In this aspect, we work alot, with Rubrica Company:

rúbrica,
Intelligent **engineering solutions**

Drag forces transients in a lot types of structures.



And not only produced by water, also by air; very important that.

Forces in bridges pilars, resonance forces and frequencies, periods, etc.... (forces in wáter and air zones).

Analysis of eolic generators in sea or not:

EOLIC GENERATORS

- Efficiency wings and improvement.
- Vibrations and movements in 3D.
- Drag against waves.
- Best location study in sea zone.
- Analysis of water and air zones.
- Stability analysis.
- Etc....

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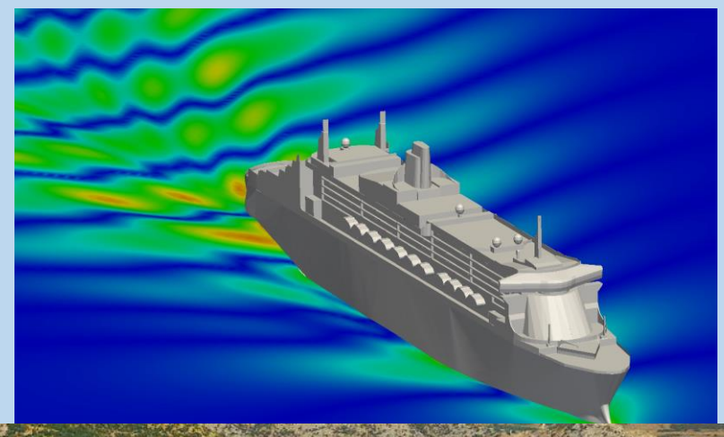
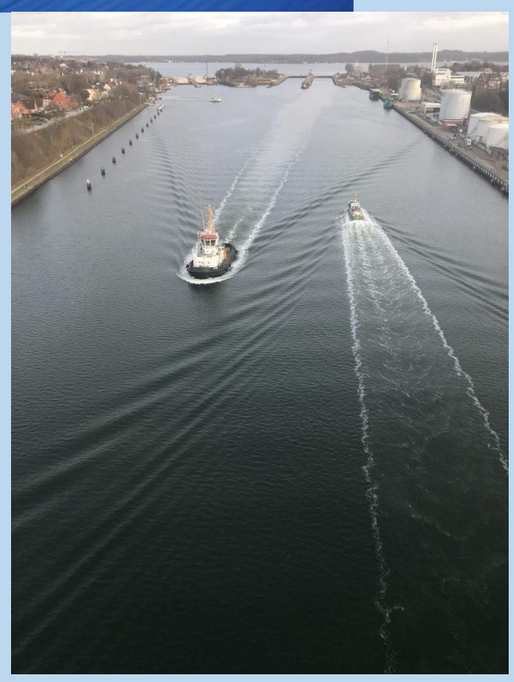
WAVES REFLECTION IN PORTS; SEDIMENTATION, ETC… COMERCIALS AND SPORT PORTS

Analysis of waves reflection in ports, in order to know zones of tranquility, zones for ships ways, etc….
Knowledge for the best Post distribution of barriers, and others structures.
Also sedimentation zones and turbulences zones.

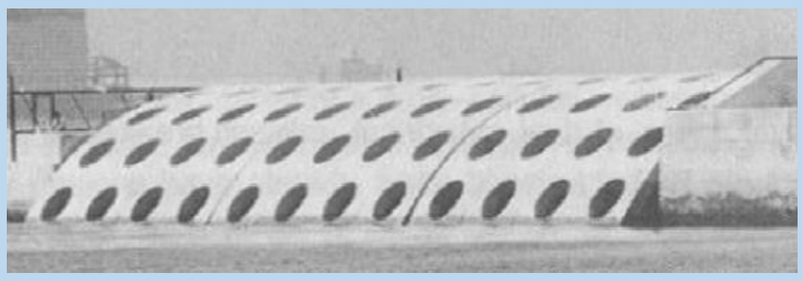
WAVES EVOLUTION



Waves dynamic and evolution in ports, in order to know where install elements for reducing the waves and zones for ships.

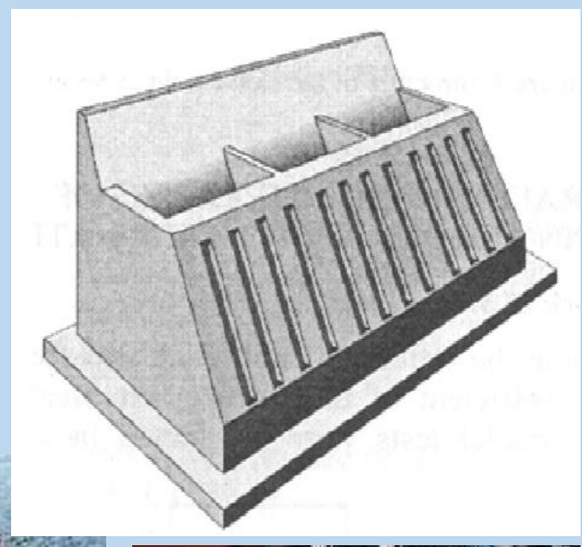


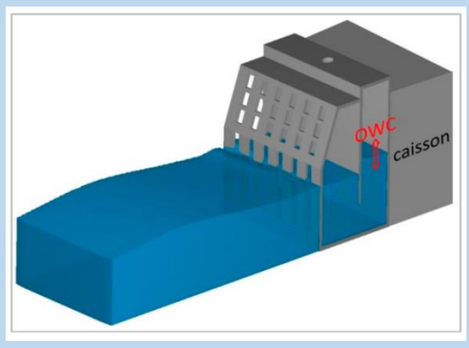
ANTIREFLECTING WAVES ELEMENTS

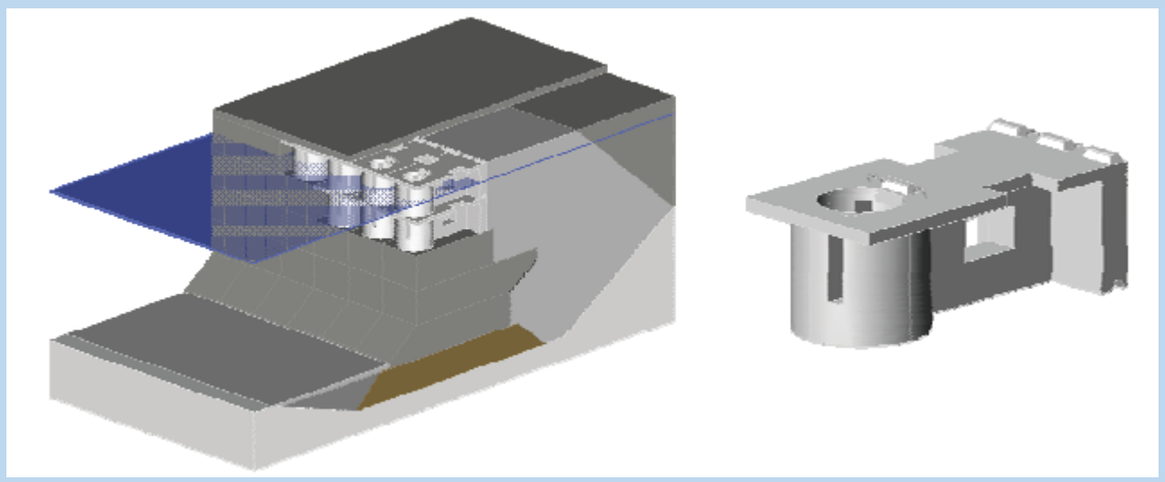


Structures and geometries for reducing the reflection waves.
Analysis of any geometry in walls or deep down:

-Waves reduction or mitigation..
-Drag in transient mode.
-Improve the system.
-Election of system in any port.







Experience

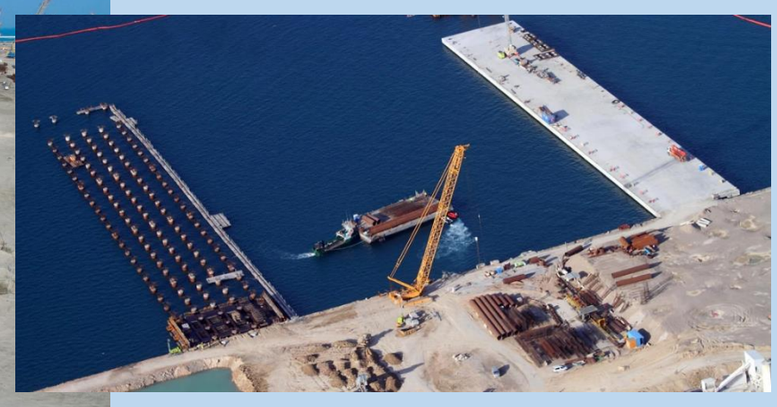
BIG ENGINEERING STRUCTURES

Training in various Masters of Engineering Maritime and University Professor as Polytechnic of Valencia, UJI, Nebrija, Ismans (Le mans), Peugeot, BP, Johnson Matthey, Rubrica Engineering, etc... Free conferences and periodic talks in Universities, Articles, etc...

Basically, my full experience, is based in RUBRICA ENGNEERING, specialized in ENGINEERING CIVIL AND MARITIME: www.rubricaingenieria.com

Students Background

In the courses given in companies in the civil and maritime engineering sector, the students have basically been employees of these companies, as well as heads of the engineering and research and development departments. Also, some companies have wanted to create their own Research Departments, applying the CFD as a public tool.



Contact

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→ The main goal for me, is create a department Research in CFD in any company, team, etc... with my knowledge and experience, in any place around the world.

Desarrollo del Curso

Cada estudiante, antes de la celebración, y una vez haya reservado plaza, recibe una serie de direcciones de nuestro Drive, correspondientes a la documentación del Curso, ejemplos, Cad´s, etc....

Durante el Curso, los profesores detallarán paso a paso y con mucho detalle, cada paso de una simulación CFD.

Igualmente, se nombrarán una serie de prácticas que el estudiante deberá practicar en sus casas, cuando finalice el Curso.

El estudiante podrá preguntar vía email, todas las dudas que tenga cuando practique todo lo impartido en el Curso.

Trabajamos con el código Star CCM+; el código no es lo más importante:

Lo más importante es aprender el proceso CFD, Conditions, Mesh Sizes, Models, etc….

Próxima Celebración en España, más cercana:

@TimoteoBriet

- **FECHA:** *A definir en breve; será anunciado aquí .*

- **DURACIÓN:** 20 Horas: *Viernes, Sábado y Domingo.*

- **LOCALIZACIÓN:** *España; el lugar final se determinará en breve y será anunciado aquí (Idioma: Español).*

- **PRECIO:** *400 Eu.*

- **NÚMERO MÁXIMO DE ESTUDIANTES:** *10.*

REGISTRATION:

Próxima Celebración en España, más cercana:

Para pre-registrarse: Debes mandarnos un email con tu CV actualizado, explicando la razón por la cual quieres hacer este Curso.

Pre-registration será efectiva bajo un estricto orden de llegada de emails.

racecarsengineering@gmail.com

Otras Celebraciones ya Confirmadas:

@TimoteoBriet

- **FECHA:**
- **DURACIÓN:**
- **LOCALIZACIÓN:**
- **NÚMERO MÁXIMO DE ESTUDIANTES:**

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PROCESO PARA RESERVAR LUGAR (CUALQUIER PARTE DE ESPAÑA)

Próxima Transparencia:

Proceso para Reservar Lugar y Fecha: → Especial para UNIVERSIDADES:

Si eres una UNIVERSIDAD Española y quieres que se celebre en tus instalaciones, escríbenos un email con tu propuesta (no importa la localización de tu Universidad)….

- Nuestras necesidades son:

a) Proyector para nuestro PC.
b) Nuestros HONORARIOS son: **solo la inscripción de cada estudiante.**

<u>La inversión ECONÓMICA PARA LA UNIVERSIDAD, ES "CERO" ¡¡¡¡</u>

Es un Curso ideal para estudiantes o ingenieros que necesiten aprender en profundidad la herramienta CFD.