



AZIMUT | BENETTI  
GROUP



SIAT  
SOCIETÀ DEGLI  
INGEGNERI E  
DEGLI ARCHITETTI  
IN TORINO  
FONDATA NEL 1866

## **“SCIENZA E INDUSTRIA 2022: LE NUOVE TECNOLOGIE PER LA VALORIZZAZIONE DELLE PMI”**

*«Le Tecnologie nella Nautica: stato dell'arte,  
tematiche innovative e  
opportunità per le PMI nella filiera nautica»*

*Alberto Amici*

*giovedì 5 maggio 2022*

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ELECTRIC PROPULSION



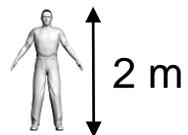
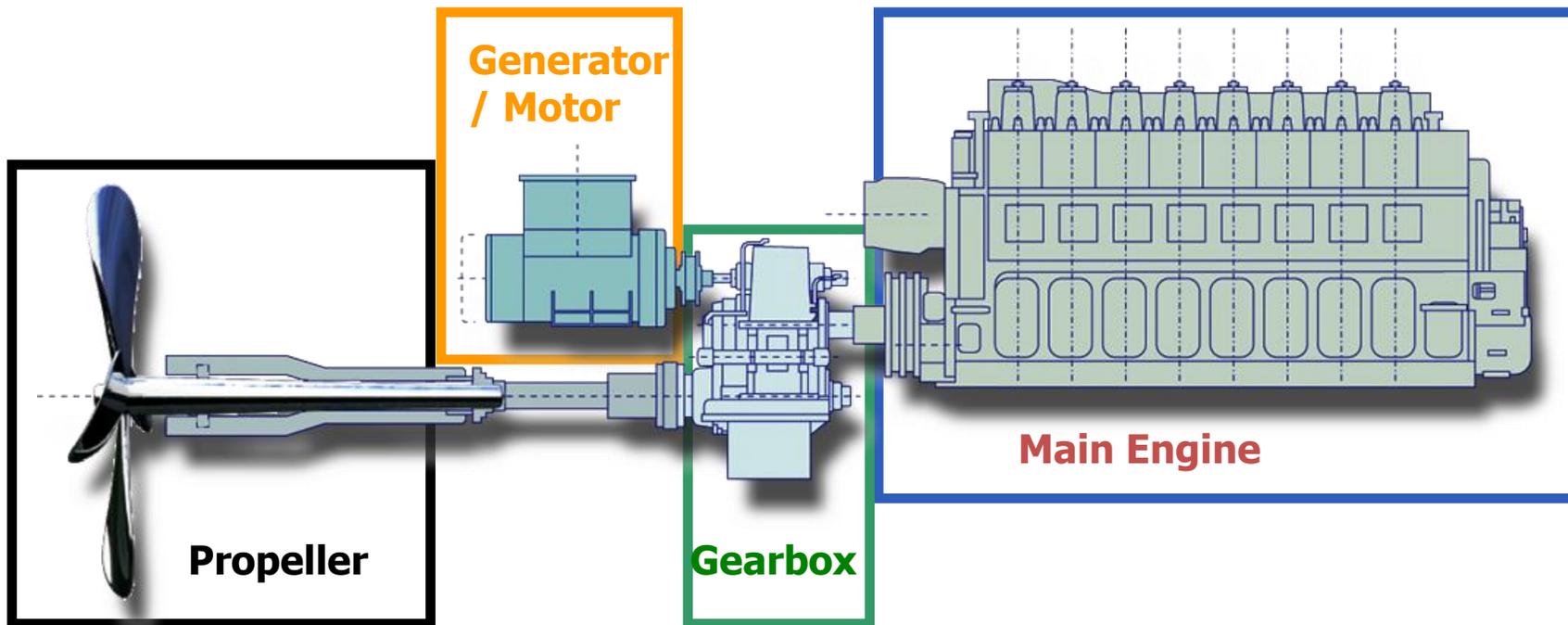
- *Chi è RTN e cosa facciamo*
- *Elettrificazione ed ibridizzazione navale*
- *Transizione Green per le navi*
- *Visione sul futuro della propulsione*

5 Maggio 2022

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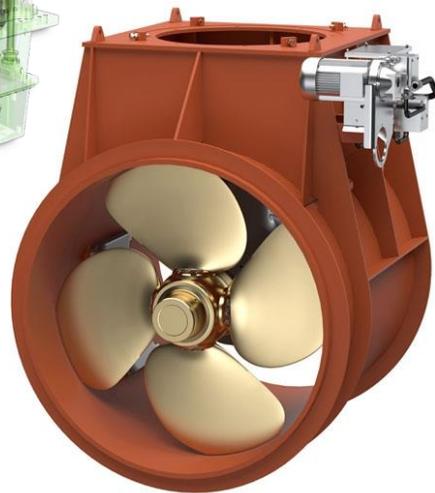
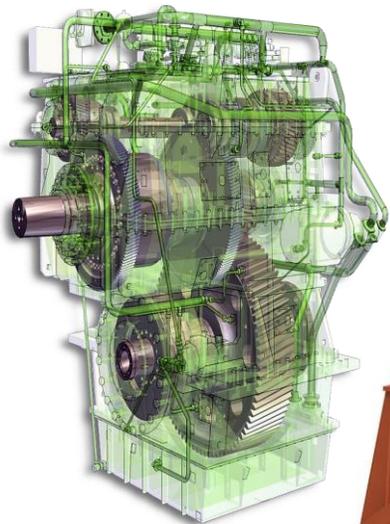
**TORINO:**  
*dove tutto ebbe inizio*





5 Maggio 2022





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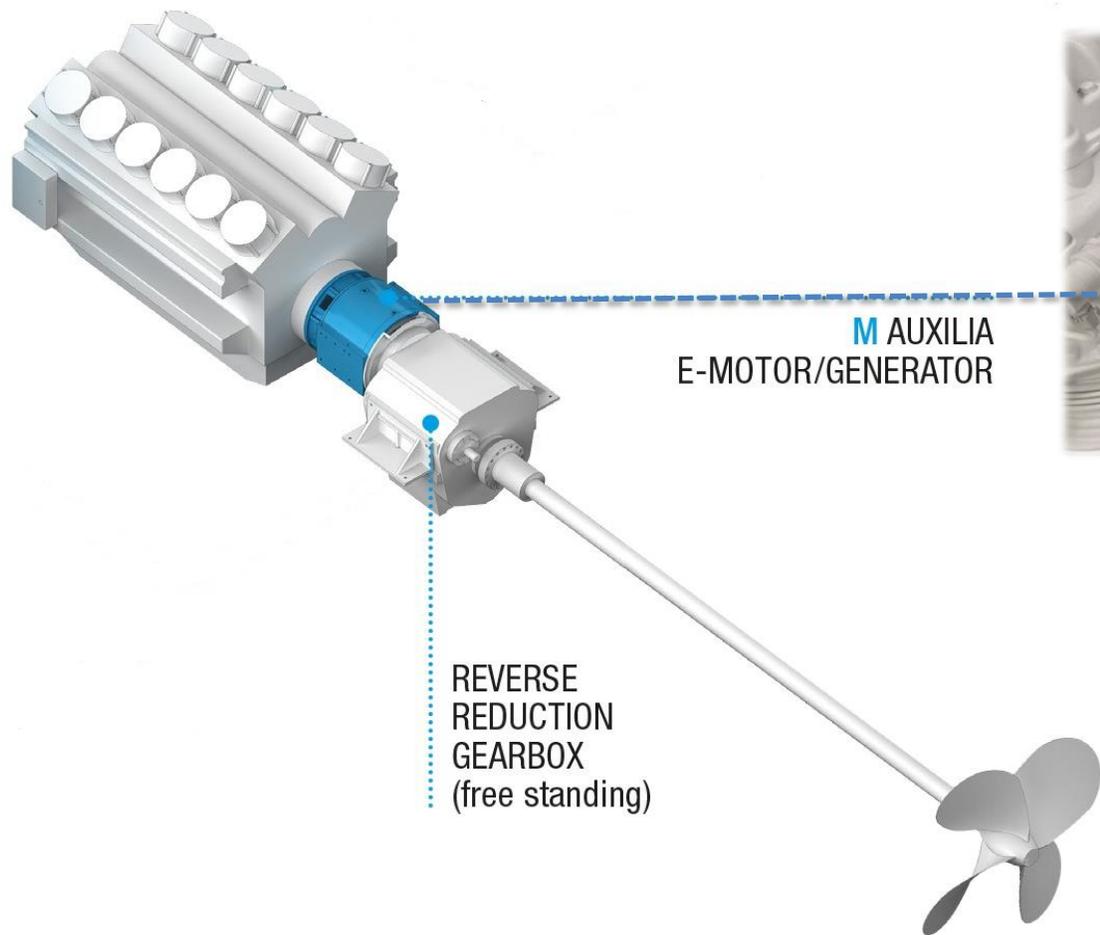


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M AUXILIA  
E-MOTOR/GENERATOR

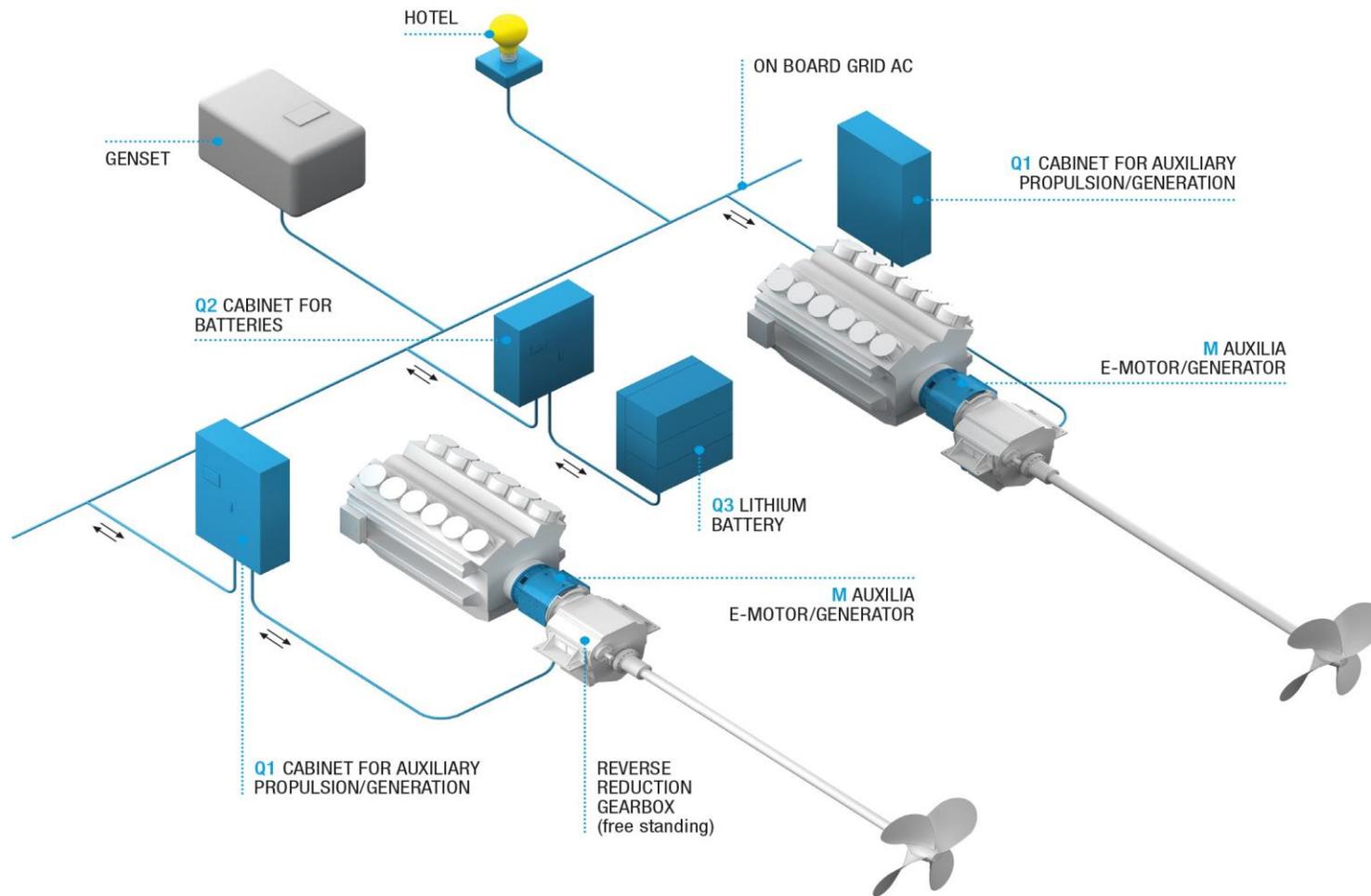
REVERSE  
REDUCTION  
GEARBOX  
(free standing)

Core of AUXILIA technology is the e-motor/generator, directly mounted on the (SAE1 or SAE 0) flywheel housing.

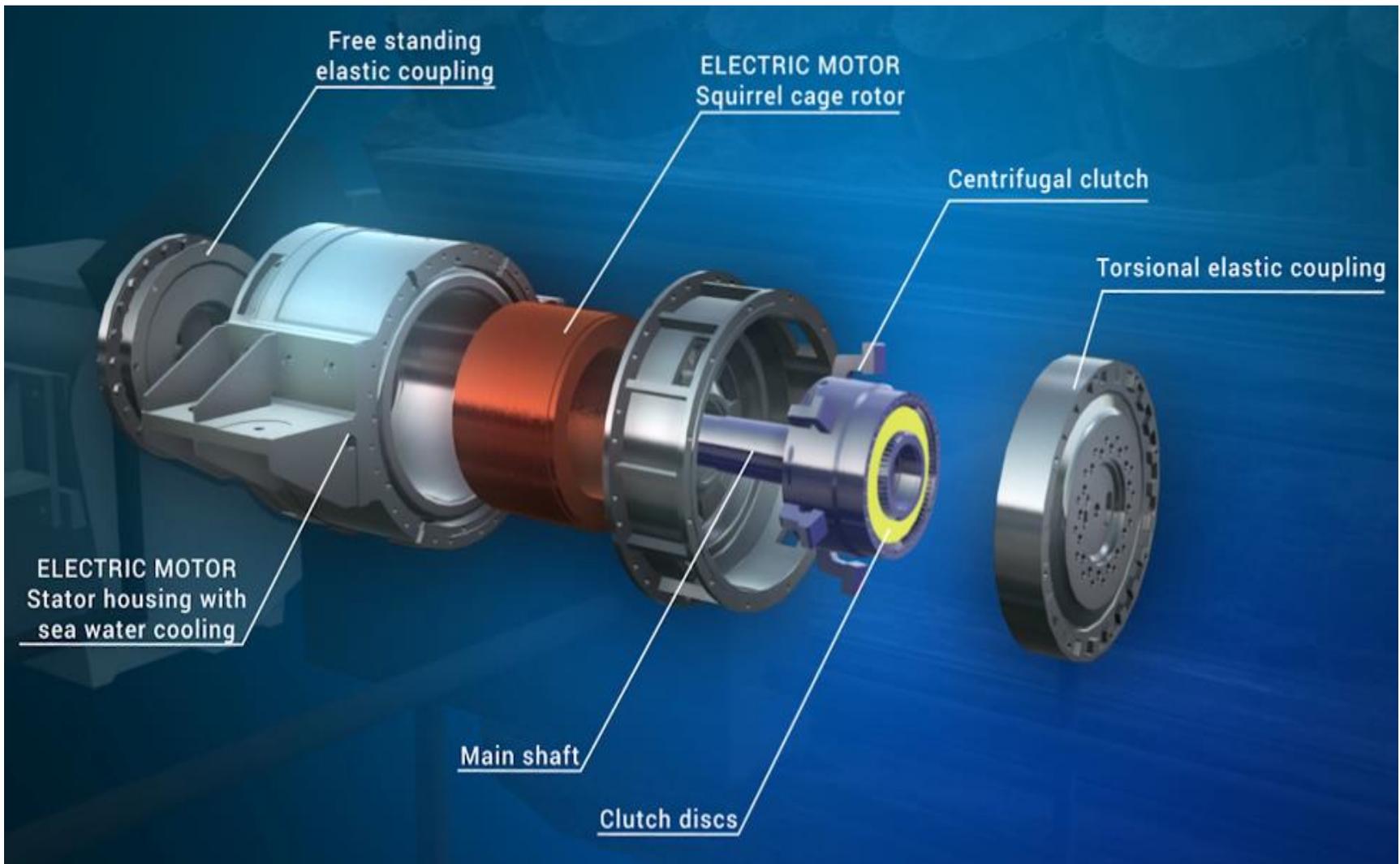
A patented «centrifugal clutch» is full integrated with the e-motor/generator

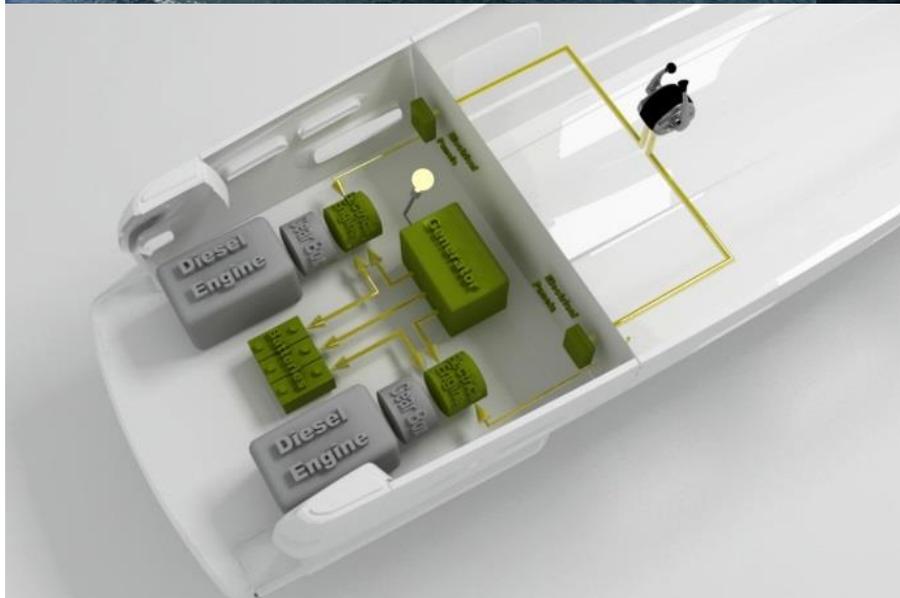


## AUXILIA HYBRID KIT



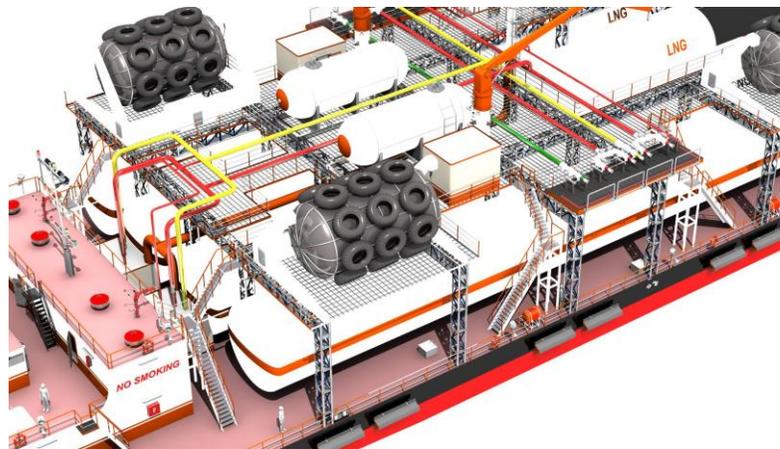
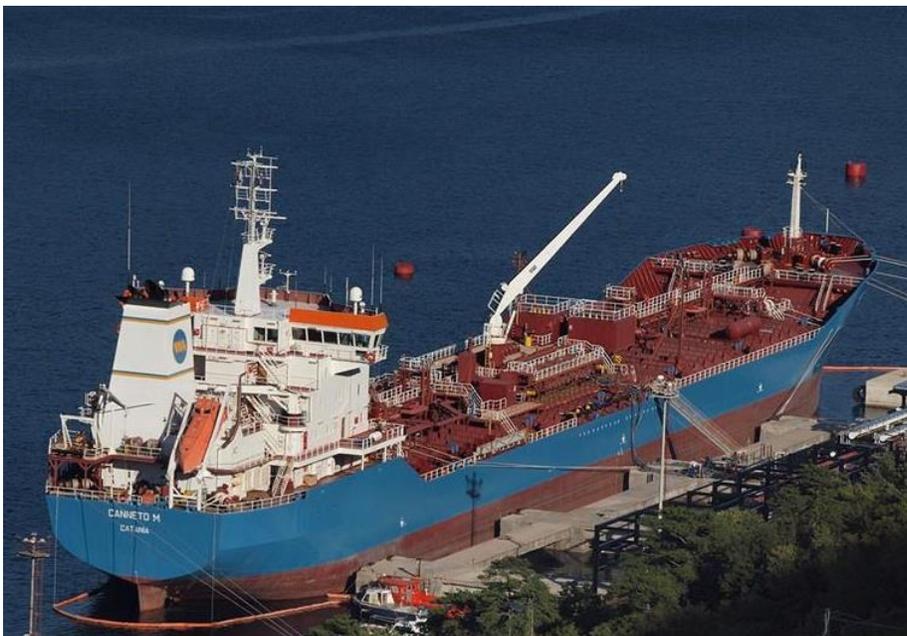
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Easter morning 1900: 5<sup>th</sup> Ave, New York City. Spot the automobile.



Source: US National Archives.

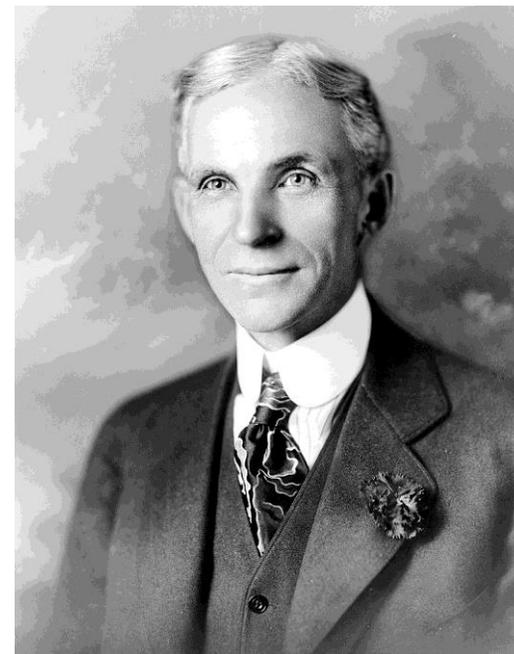
Easter morning 1913: 5<sup>th</sup> Ave, New York City. Spot the horse.



Source: George Grantham Bain Collection.



- The price of a car was 6-8 times the price of a horse with carriage
- The circulation of the first cars was very dangerous for people and animals (dogs, cats and chickens often ended up under the wheels)
- There were no “road rules” to manage the transit of cars and carriages with horse (chaos in the town)
- In 1905 in NY there were only 2 tank stations
- Methanol was easier to find than gasoline (Benz engine)



*If I asked people what they wanted, they would have said: “faster horse”*

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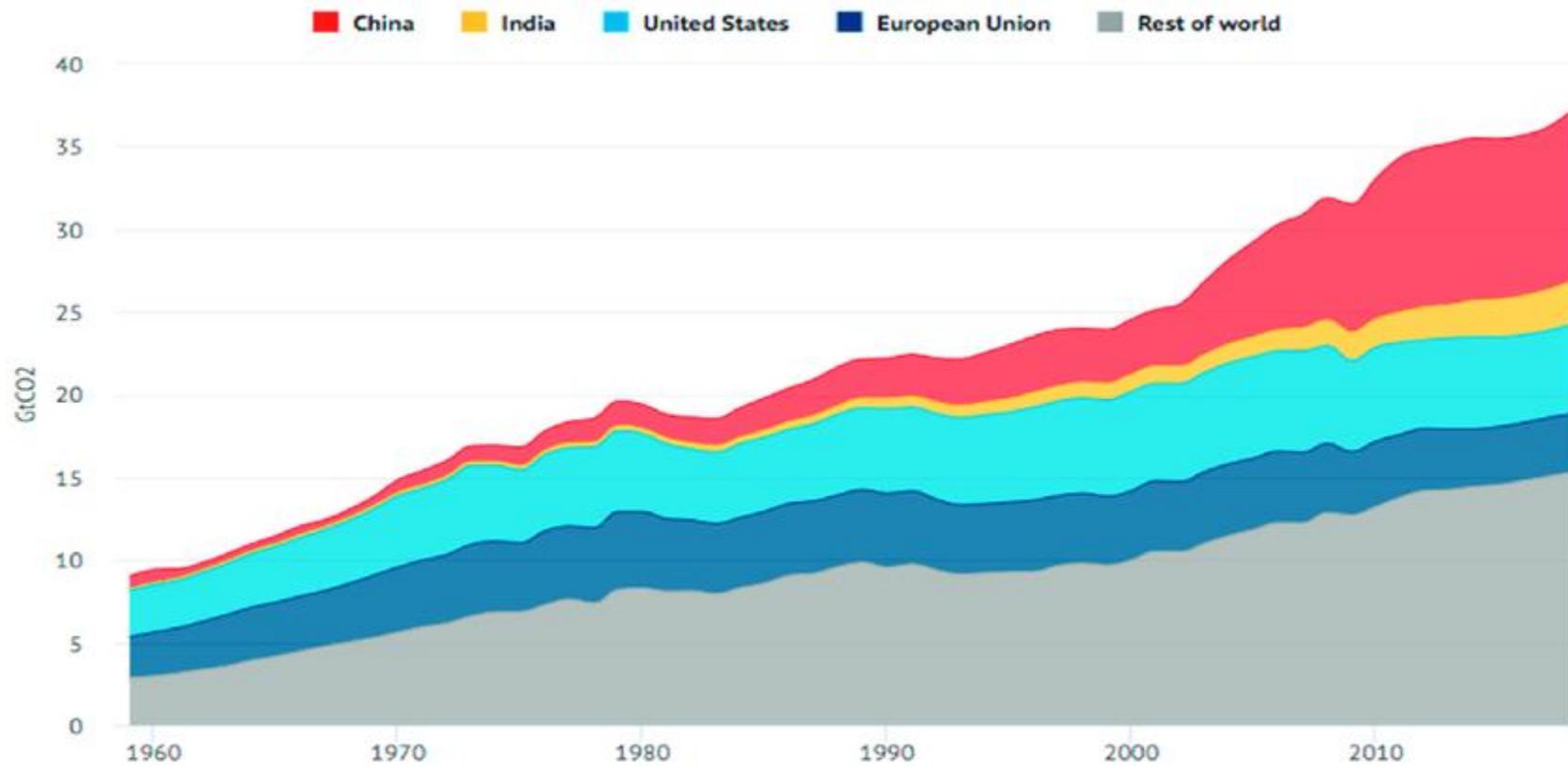
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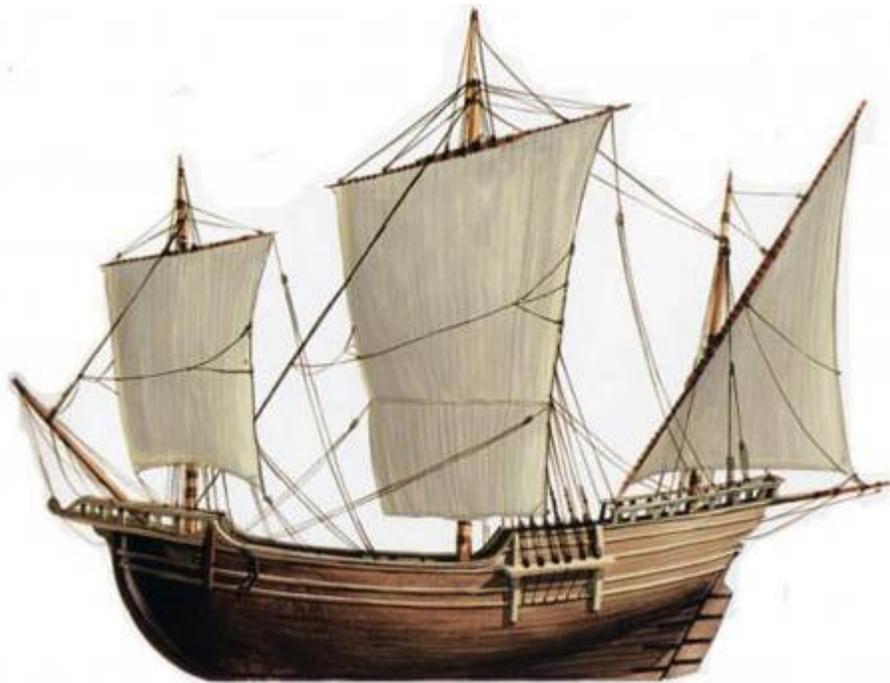


## CO<sub>2</sub> Word Evolution



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## *Pinta*

Stazza lorda	115,5 tsl
Lunghezza	22,75 m
Larghezza	6,60 m
Pescaggio	1,85 m
Propulsione	Vele latine
Velocità	12 nodi
Equipaggio	25

*a parità di dislocamento,  
lunghezza e velocità , ad uno scafo  
motorizzato servirebbero circa:*

***275'000 litri di gasolio***

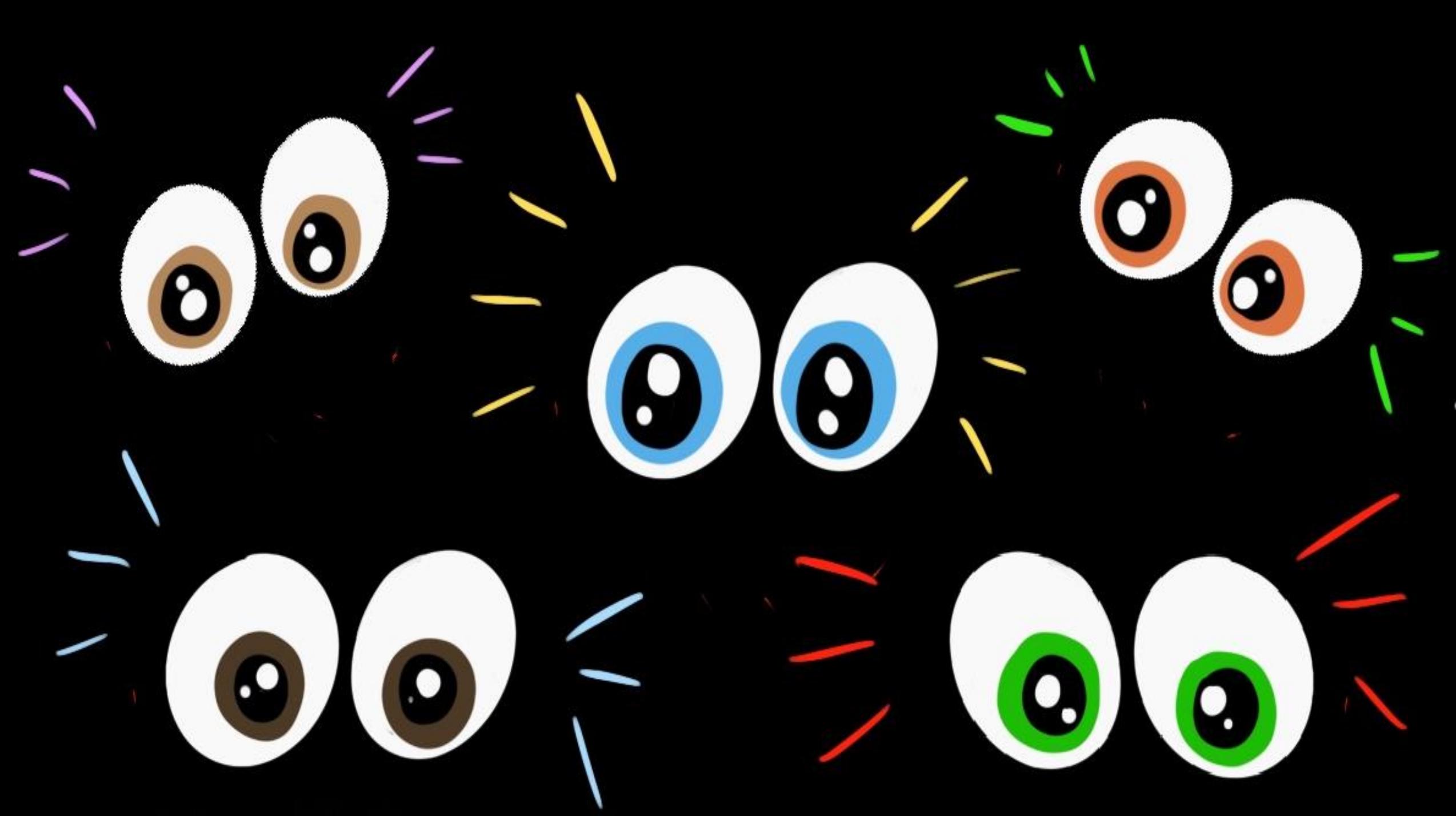
*producendo*

***742,5 ton CO<sub>2</sub>***

***(6,5 volte il suo peso)***

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Il Magnate Lorenzo  
de Medici supporta  
Michelangelo

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# SEAJET

a new era for marine propulsion

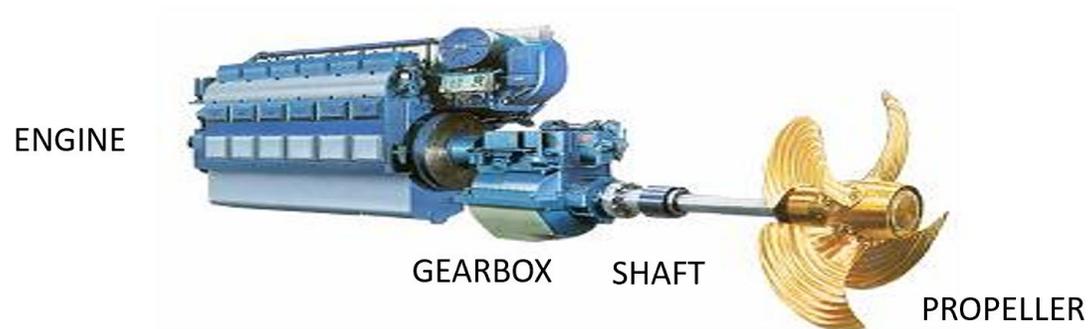
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## STATE OF THE ART



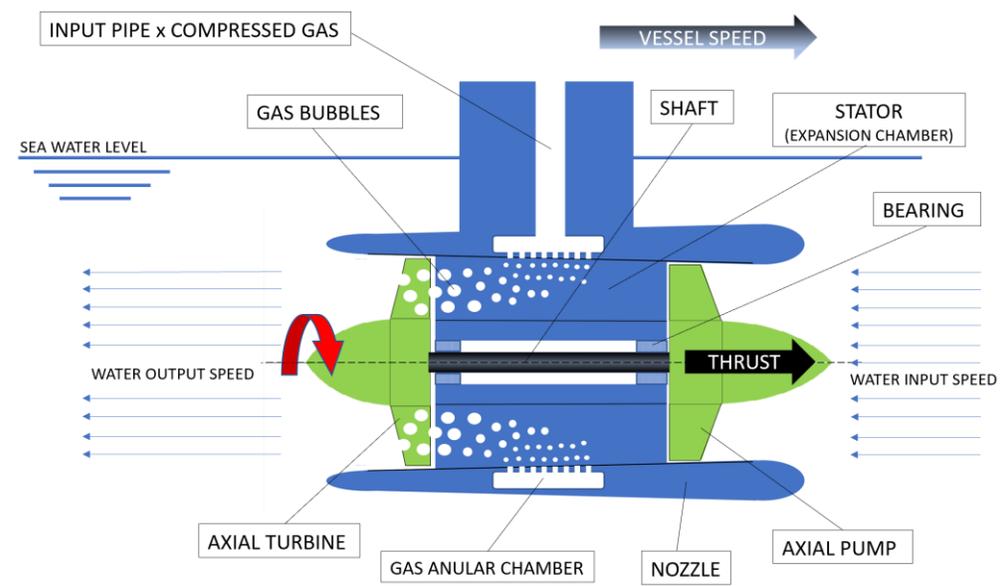
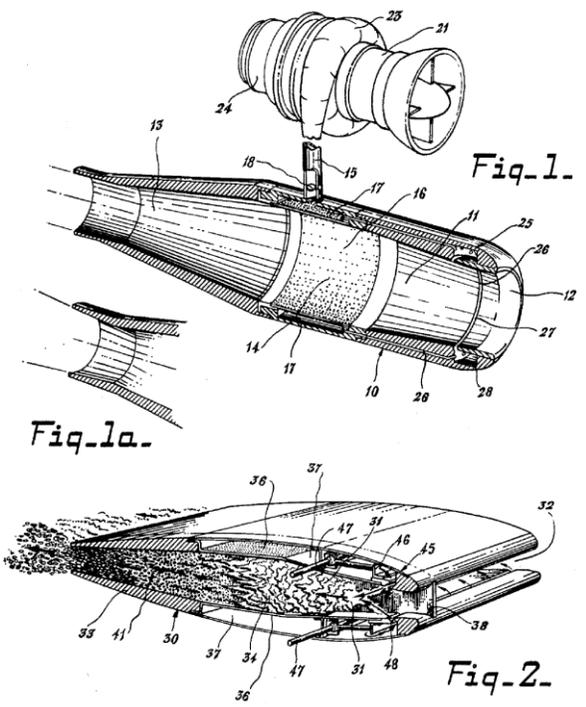
The global efficiency of standard marine propulsion systems is less than 20% (fuel to thrust)

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# SEAJET

CONVERT HIGH PRESSURE EXHAUST GAS DIRECTLY IN PROPULSION THRUST  
(in collaboration with Poli MI – Uni NA)



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*Thank you for your attention !*



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