# Instrumentation & Automation Applied On Sailing Race Boat

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electronics for flying

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# Sailing Race Boat

# Plan

1.Evaluate our fuel and how to optimize it

2.Control of sailing boat
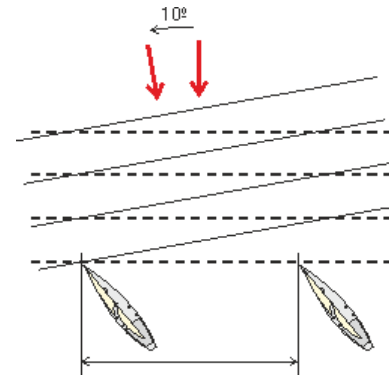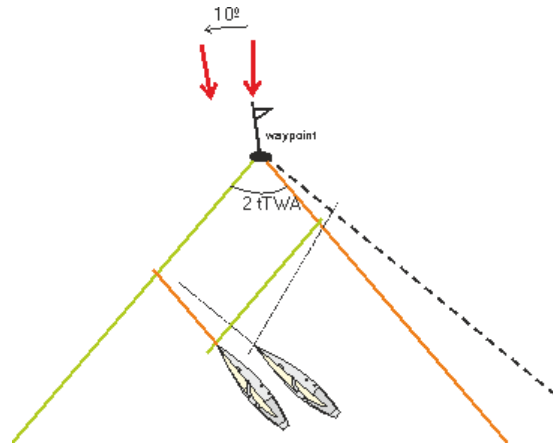
3.System architecture

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# Le voilier est un étrange véhicule
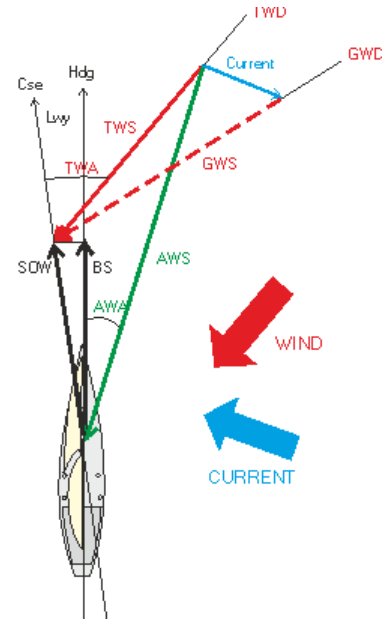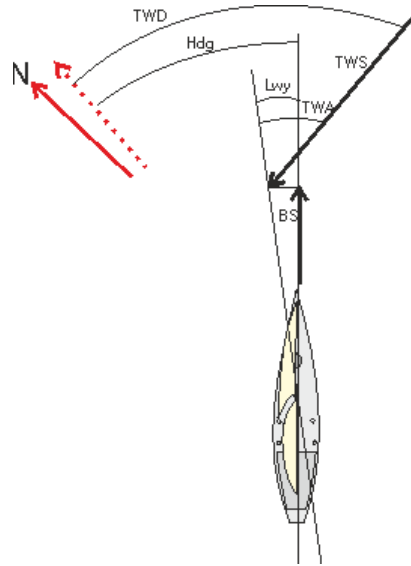
## The sailboat is a strange vehicle

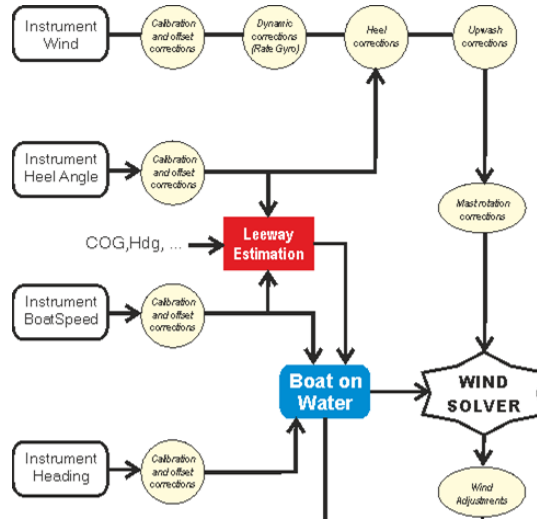*il navigue entre deux fluides de densité différentes: un gaz et un liquide. Bertrand Chéret, famous saildesigner*

# Play with the wind

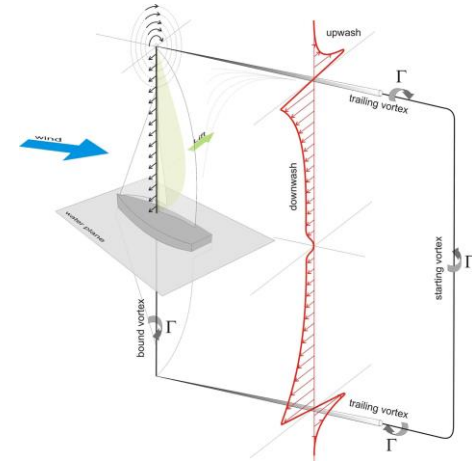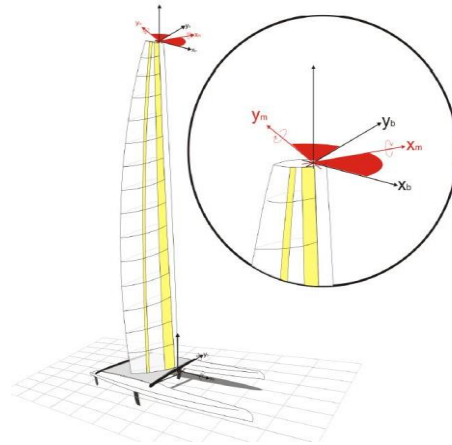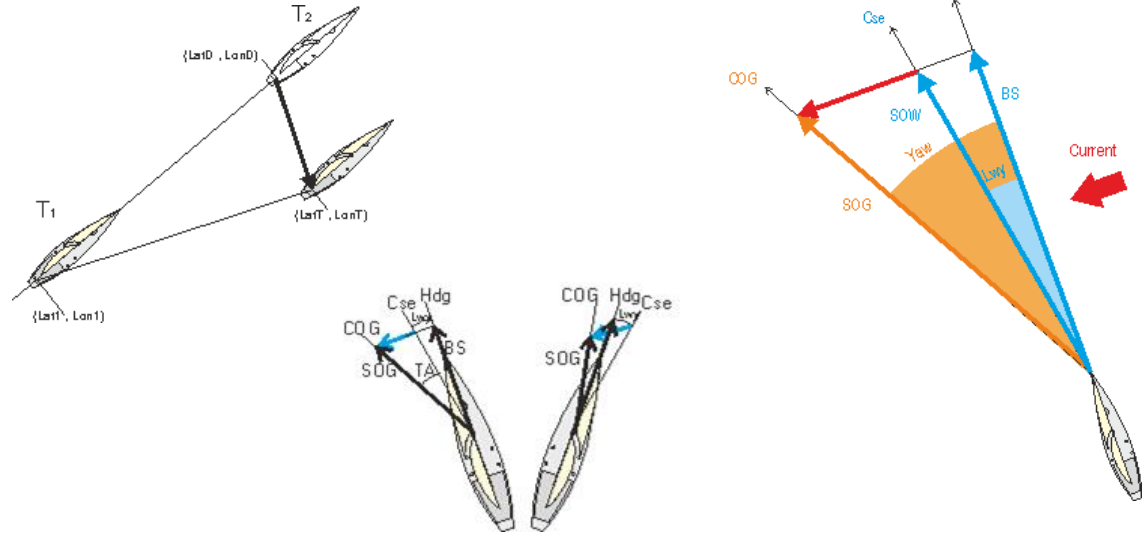# The wind measuring

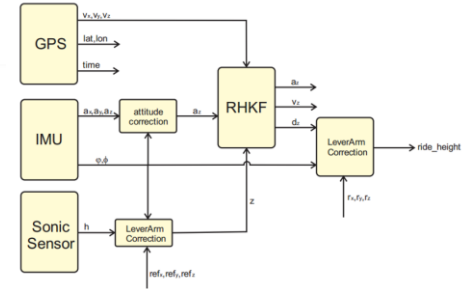# Wind Calculation Process
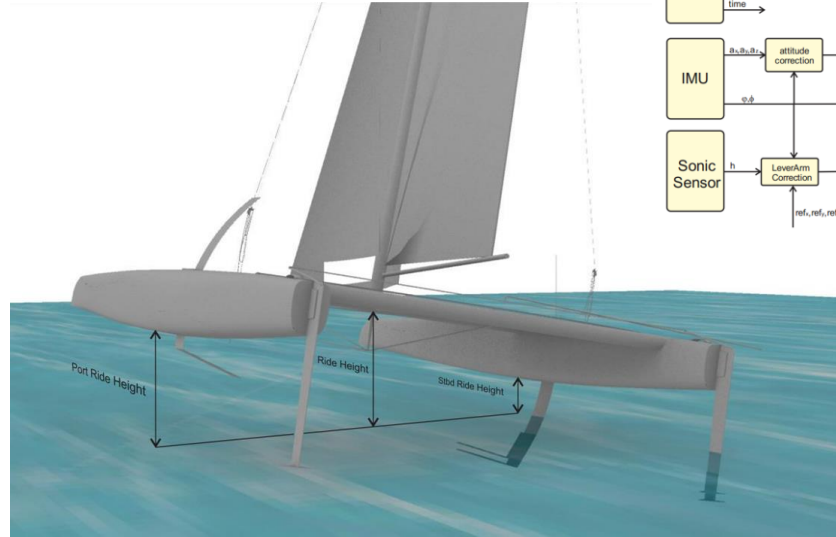
# Instruments Wind Correction

# Leeway estimation

# Today, the sailing boats are flying!

# Foiling Measurement

# Controls & Command
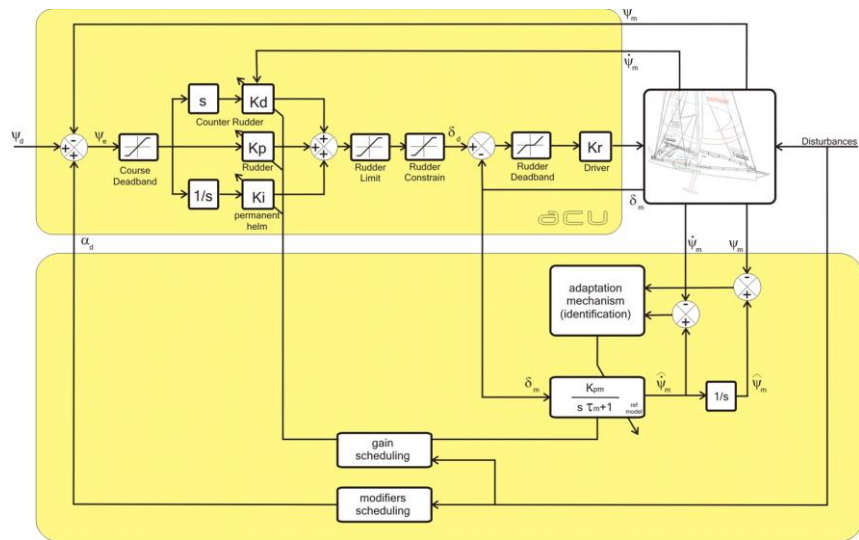
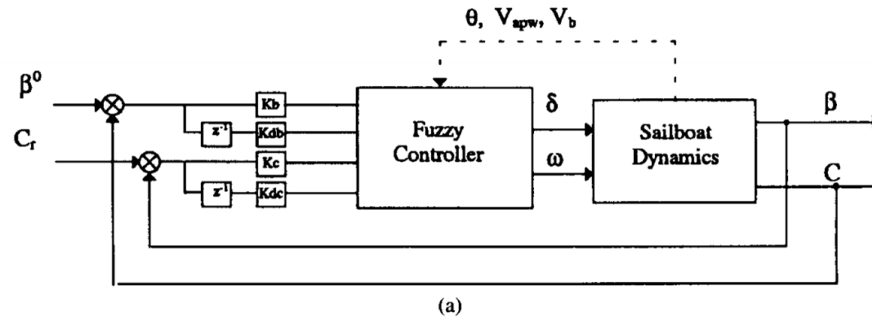Available commands on a sailing boat:

- Sheet

- Rudder

*Performance*

*Security : man over board*

*Manoeuvre : gybe, tack*

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# PID Wind driven

# PID Fuzzy logic



(a)

# The new commands for foiling

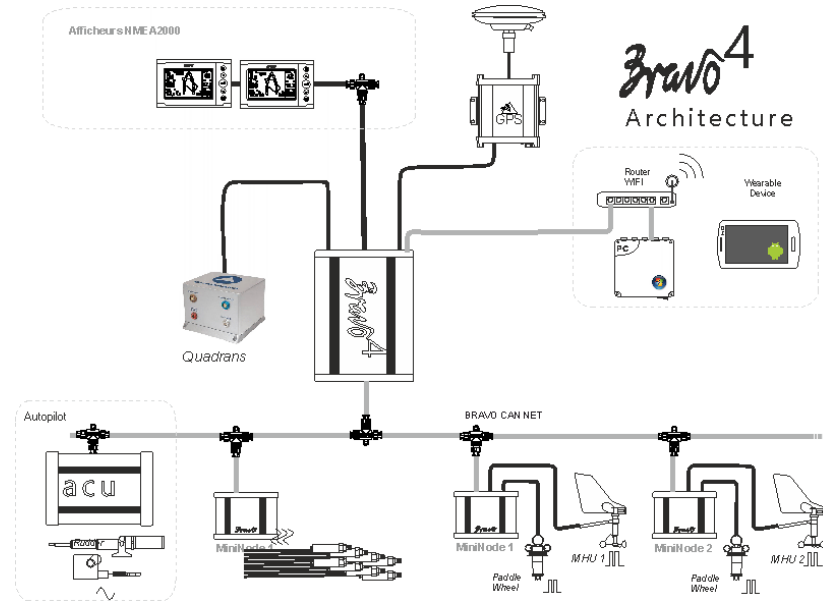# Environnement detection

OFNI (UFO) : Whales, container

Wave

Wind



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# Instrumentation

# Architecture
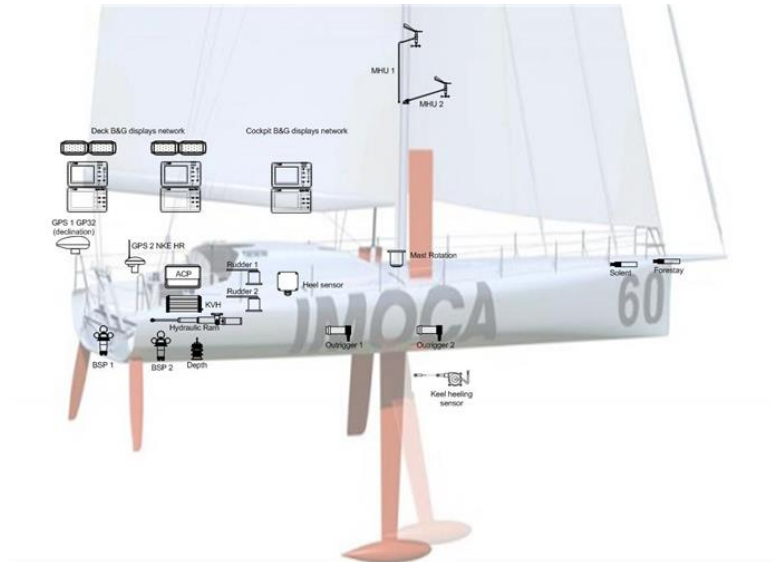


Bravo⁴ Architecture

# Questions