

# **Wärtsiläs miljøvennlige løsninger til skipsfarten**

**Ove H. Wilhelmsen**  
**General Sales Manager**



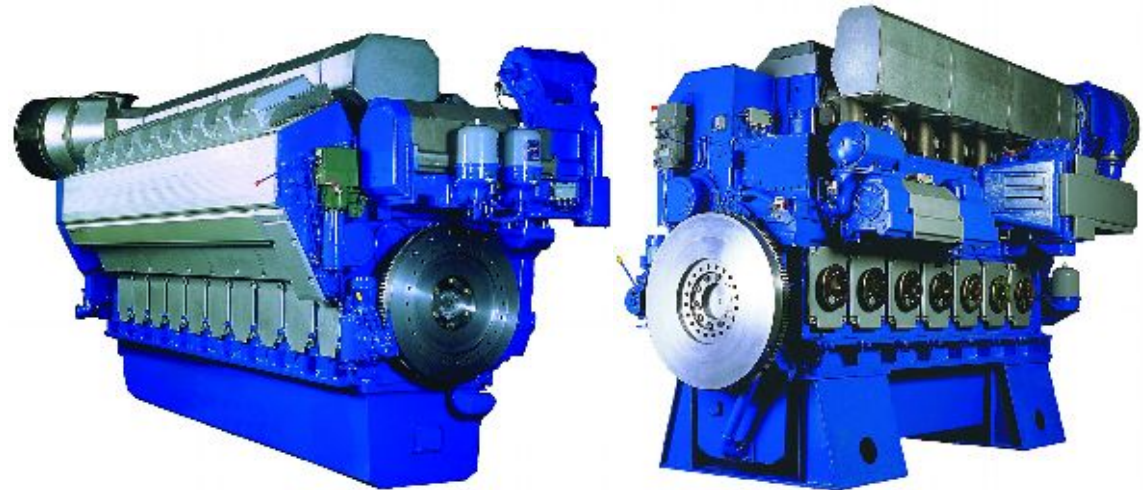
# Olympic Prawn

- Wärtsilä 12V32 main engine, 6000 kW at 750 rpm
- Wärtsilä reduction gear
- Wärtsilä Controlled Pitch with HR-nozzle
- Lipstronic 7000 control system



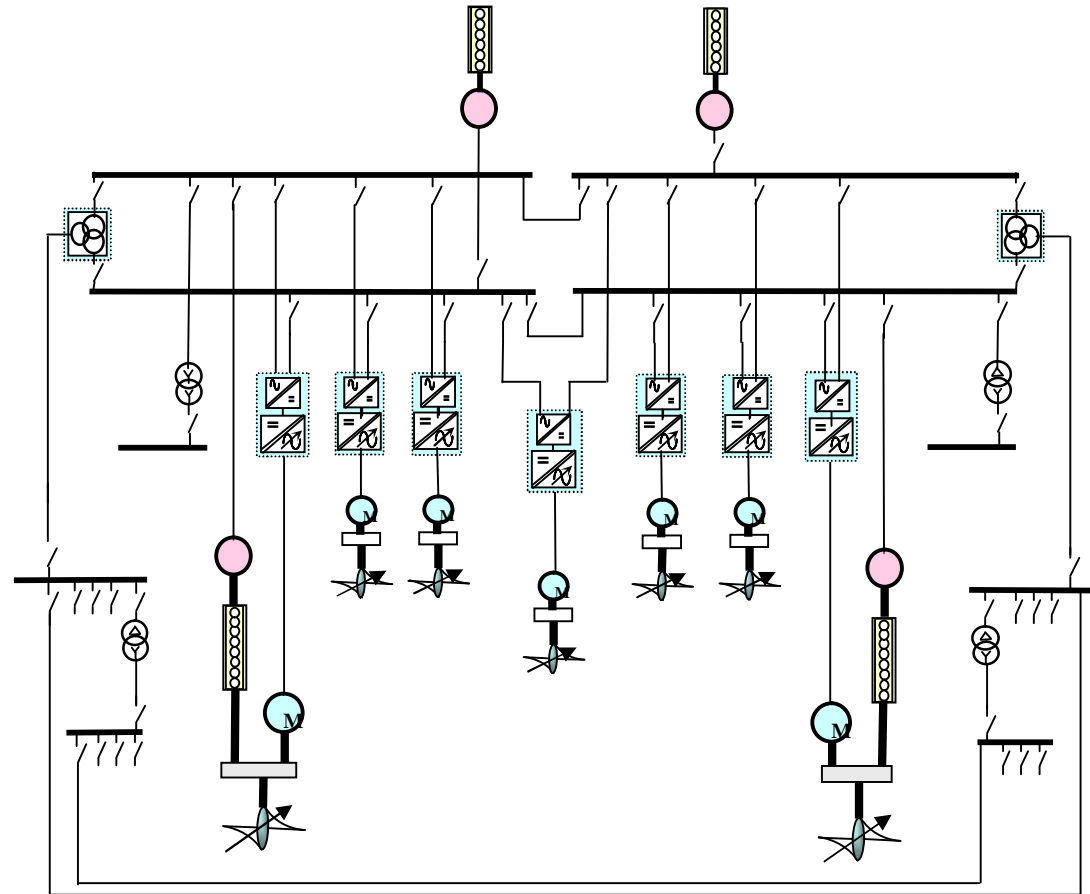
# Clean Design

- 32-engines
- 20, 26, 38, 46, 64
- Wetpacks
  - Direct Water Injection
  - Damp injection



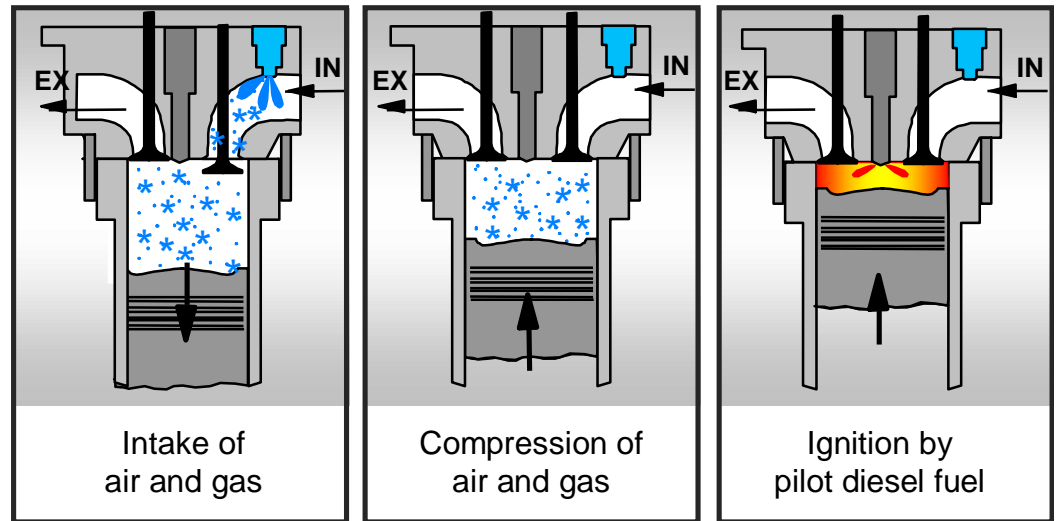
# Diesel Electric Propulsion

- Diesel Electric Propulsion
- Wärtsilä Low Loss Concept
- Hybrid Solutions



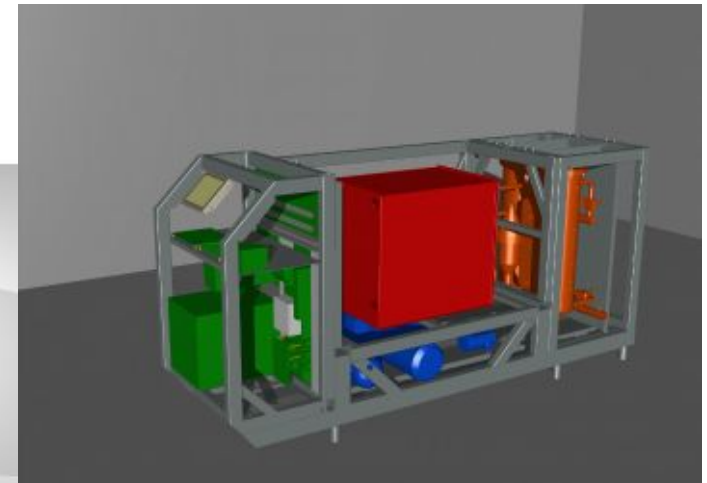
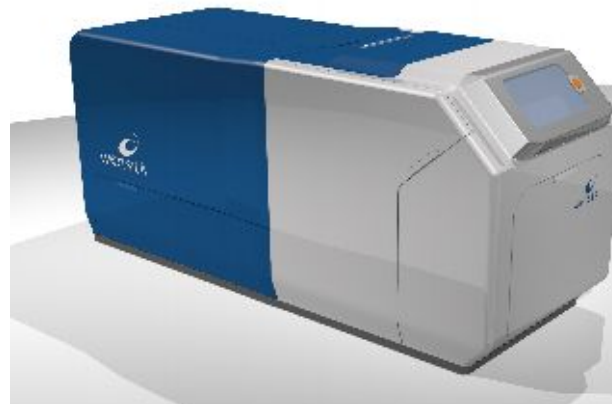
# Dual Fuel

- W 34DF
- W 50DF
- Dual modes
  - Gas mode 15-80%
  - Diesel mode



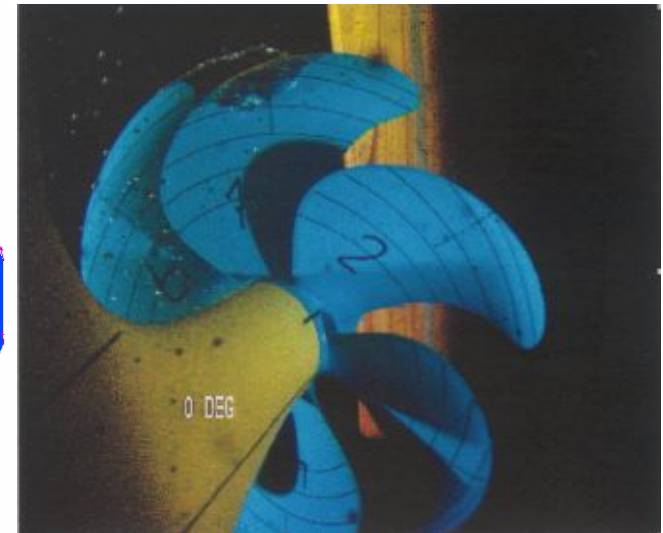
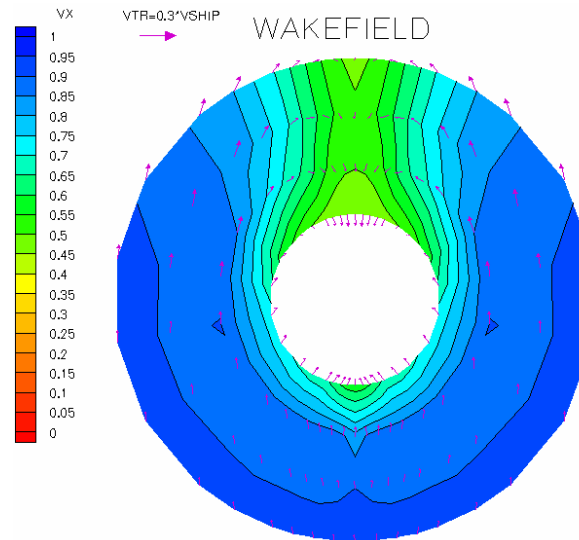
# Fuel Cell

- Auxiliary systems
- Main power
- System solutions

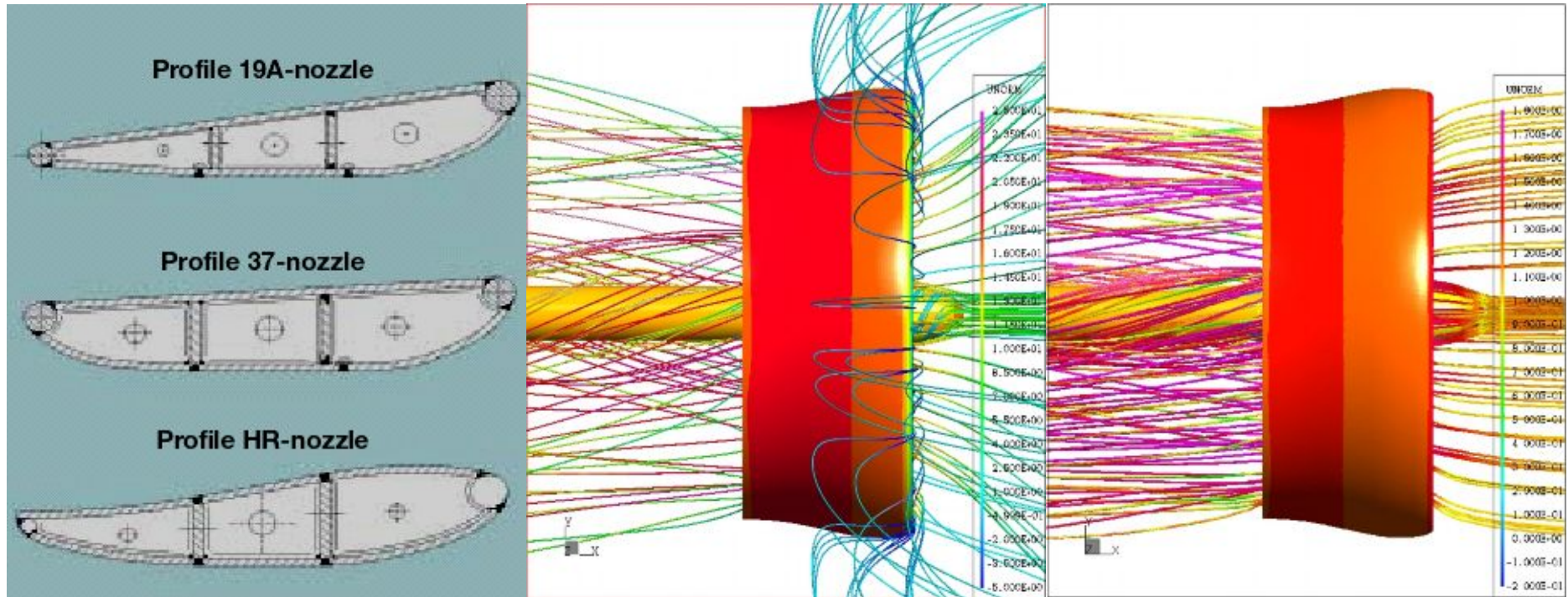


# Propulsive

- Propeller efficiency
  - Diameter
  - Blade Geometry
- Hull
  - Wake fraction
  - Thrust deduction



# HR-Nozzle



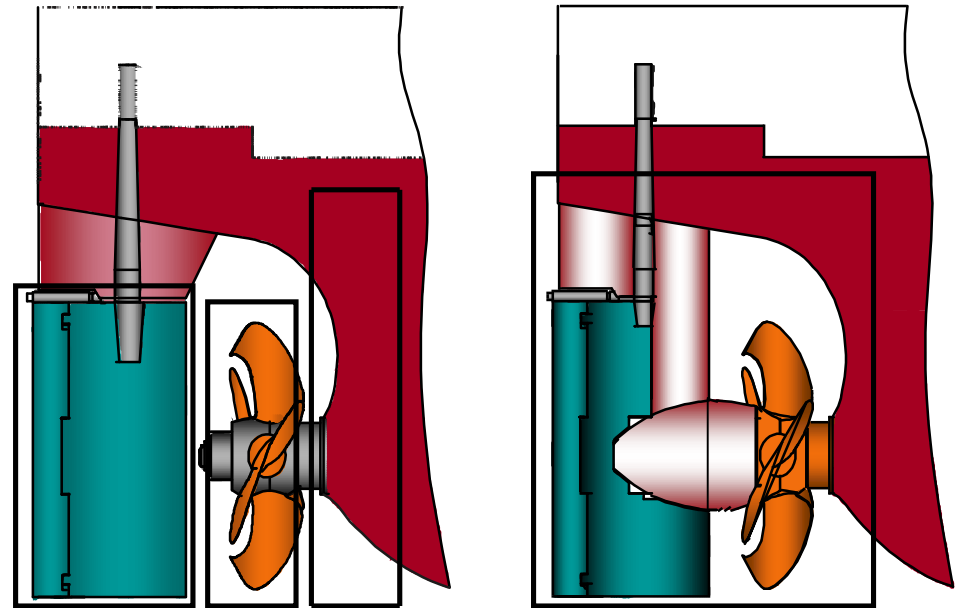
# Trygvason

- Efficiency
  - 13%
- BP
  - 29%
- ROI
  - 1,6 years



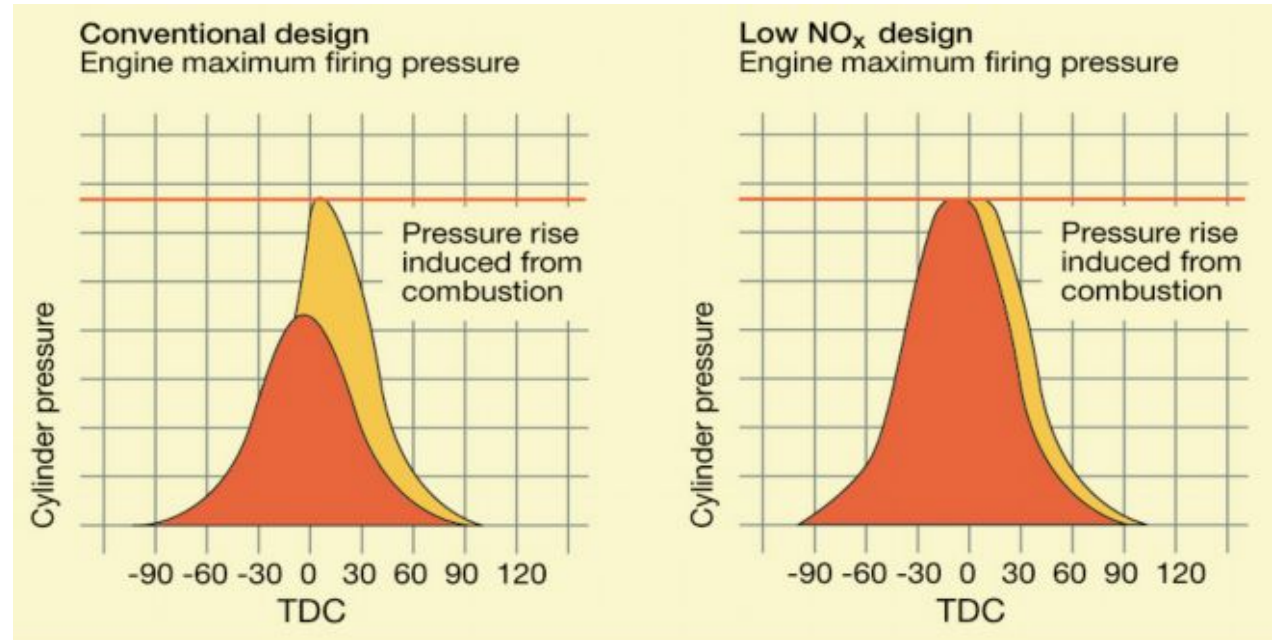
# Efficiency Rudder

- Fuel savings
  - 5-7 % for Singlescrew
  - 3-5 % for Twinscrew
- Reduced vibrations and noise
  - 30-45 % for Singlescrew
  - 20-25 % for Twinscrew



# NOx conversion

- Temperature
- Timing
- Fuel/air
- 25-40% NOx
- 2-7% Fuel consump





**Thank You!**