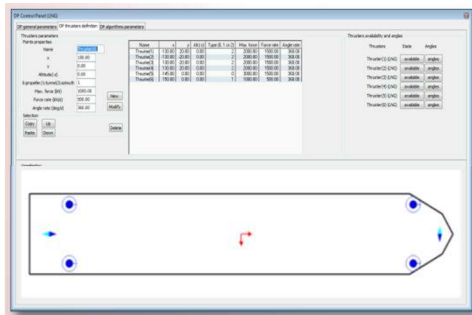


- DP system capability and performance assessment
- DP system failure analysis
- Capability of reaching a position

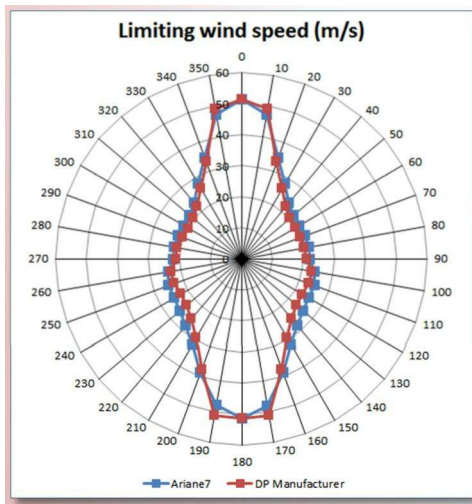
### Calculation:

- **Static** (DP capability) and **Time domain** (DP performance) calculations
- Includes vessel's control methods (Proportional Integral Derivative laws) with user-defined gains for control demand determination
- Includes thrust allocation methods considering thrusters' configurations and parameters (position, type, max. power) and constraints (dependencies and forbidden zones, power increase)



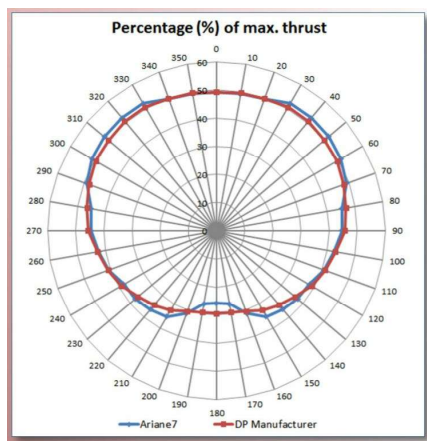
### Static calculation:

- DP capability under static loads (control demand)
- Thruster allocation method used
- Limiting environmental conditions that the DP system can counteract until the complete use of thrust (limiting wind speed) or until a given percentage of max. thrust
- Percentage of max thrust used for a given environment (thrust utilization)
- Batch mode allowing DP static response calculation for a set of environments



### Time Domain Simulations:

- Setpoint defined as a fixed point or a moving position (trajectory or position according to a another vessel)
- DP system performance under loads computed in Time Domain
- Station keeping and thrusters force assessment for a given sea state
- Control and thruster allocation strategies comparison in batch mode
- Options as thrusters activation, bypass of vessel's model and dependencies consideration



### Simulation results:

- Displayed on the interface graphically (thruster force, control demand, DP capability plot)
- Results given following IMCA standards for static
- 2D and 3D display of the thrusters configuration and utilization