Data needs for modelling an own ship in the simulator

1. Ship type and main dimensions
2. Drawing of the general plan
3. Lines plan
4. Results of propulsion and resistance model tests or calculations
5. Results of seakeeping model tests or calculations
6. Engine parameters, such as:
    a. engines power
    b. RPM versus speed table (1) sailing at one or two propellers
    c. Minimum RPM's (at Dead Slow)
    d. time delays in operating, e.g. time to start the engine and also the change in RPM/second when ordering a new engine order
7. Propeller(s) data of main propeller and bow/stern thrusters,
    a. like number of blades,
    b. diameter,
    c. exact location (if not indicated on the general plan),
    d. turning direction when sailing ahead.
    e. If variable pitch propeller: combinatory curve and pitch rates.
    f. Power of bow/stern thrusters (alternative: bollard pull of thrusters).
    g. Positions of bow/stern thrusters.
8. Rudder(s) data, like
    a. shape, dimensions,
    b. maximum rudder angle,
    c. time delays in operating (number of seconds from one side to the other for one steering engine and for two steering engines activated per rudder),
    d. exact location (if not indicated on the general plan)
9. Number of anchors, chain length and weight, speed of the anchor winch for hauling in
10. Mooring winches, (Dutch) bollards and fairleads, number, type, breaking force, location (if not indicated on the general plan), speed of hauling in/out
11. Dedicated pushing points along the hull.
12. Results or model tests for manoeuvring or sea trial results like (when available):
    a. turning circle tests
    b. spiral tests
    c. zigzag tests
    d. stopping tests
    e. speed tests
    f. acceleration tests
    g. pull-out tests
    h. acceleration-turn tests
    i. coasting turn tests.
    j. bow or stern thruster test
13. Bridge lay-out (for real time simulations) Rudders always coupled?
14. Wind coefficients of the model and windage areas
15. Visuals (for real time simulations) of the vessel in 3D StudioMax (with textures) or Flight format (if available from e.g. an artist's impression). Alternatively a 3D AutoCad drawing forms also a good base for preparing the visuals.