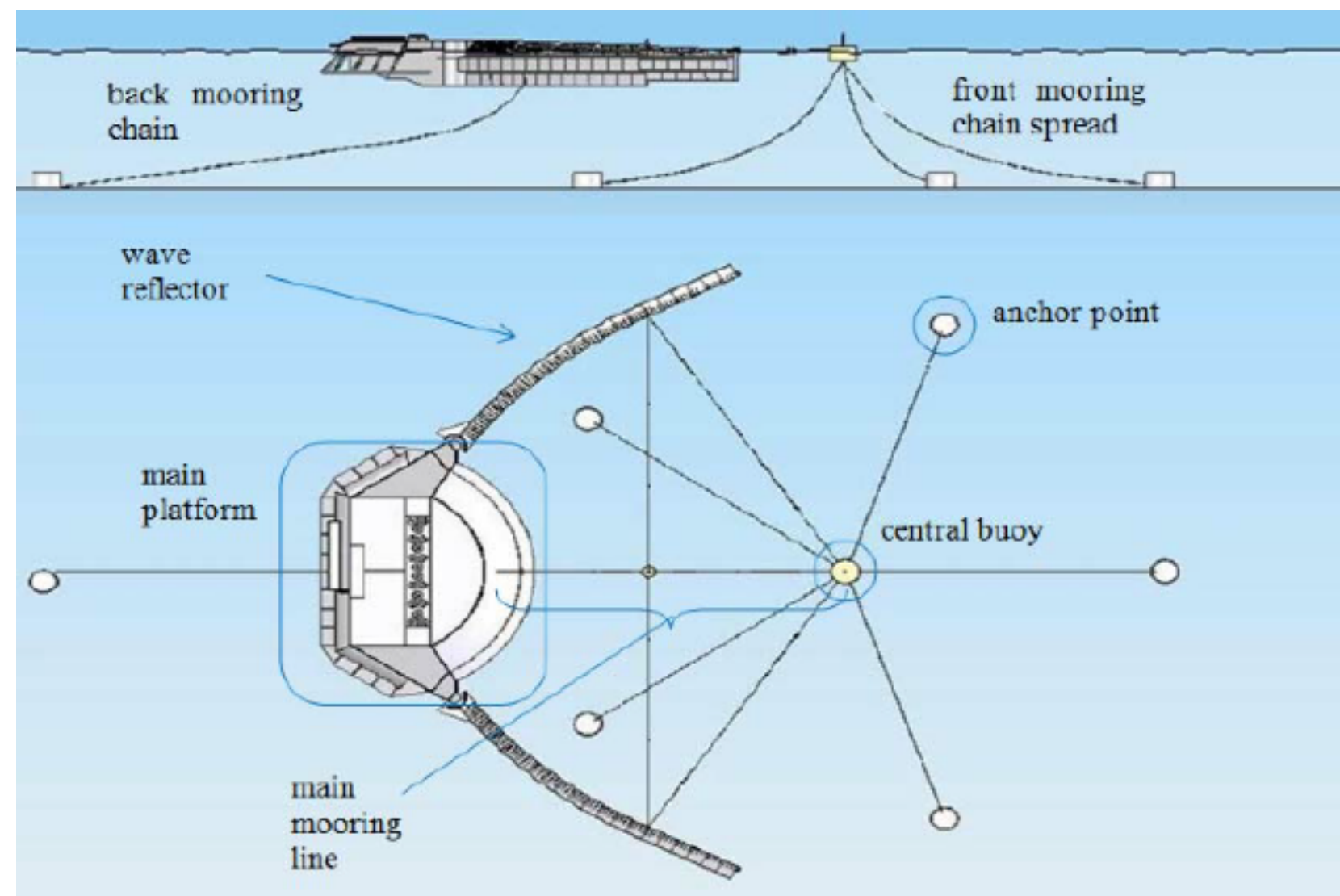
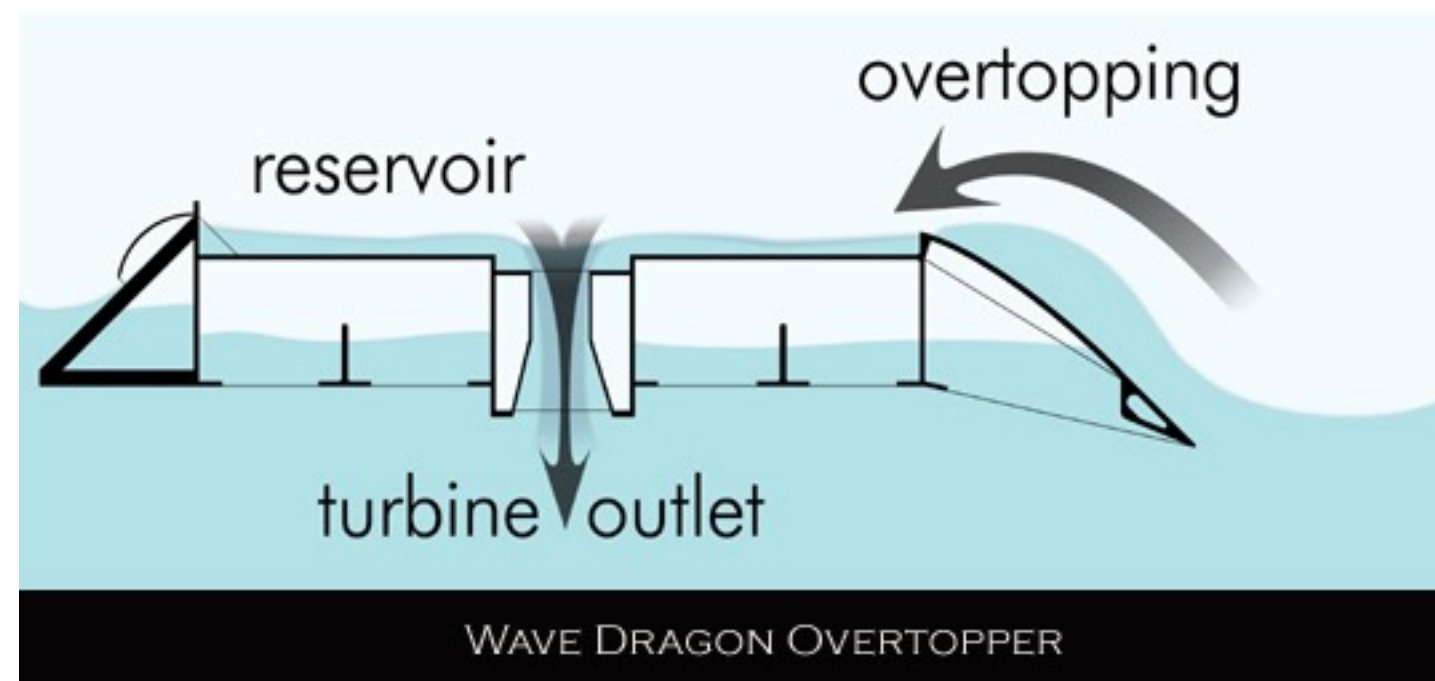


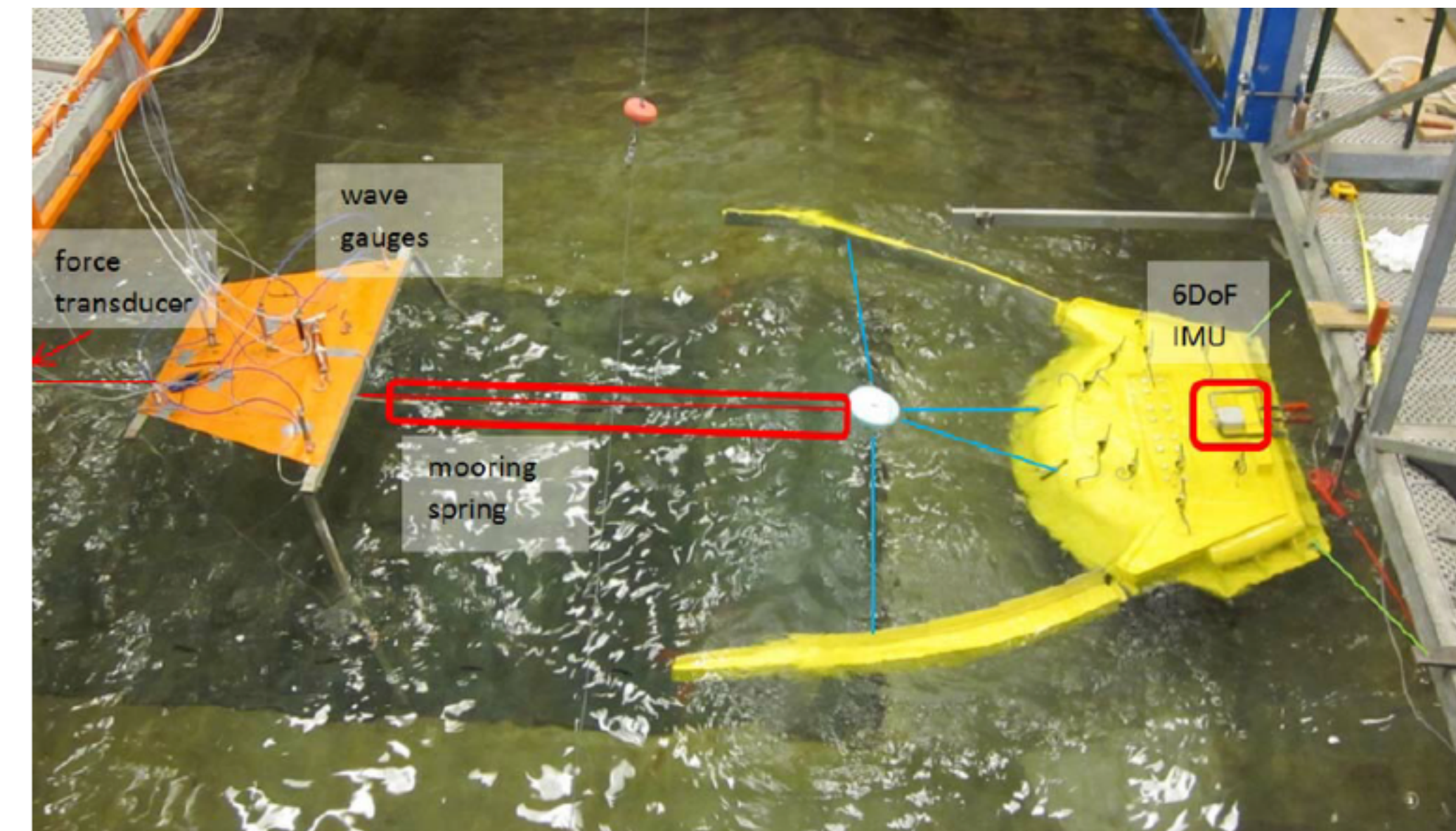
Experimental design: similarity

Kinematic similarity: similarity of velocities

The flow and model(s) will have geometrically similar motions in model and full scale



Conceptual mooring system of Wave Dragon



Experimental setup of the 1:50 scale model tests of the North Sea Wave Dragon



Experimental design: similarity

Dynamic similarity:

Geometric similarity & similarity of forces

Ratios between different forces in full scale must be the same in model scale.

If you have geometric and dynamic similarity, you'll also have kinematic similarity.

The following force contributions are of importance:

- Inertia Forces, F_i
- Viscous forces, F_v
- Gravitational forces, F_g
- Pressure forces, F_p
- Elastic forces in the fluid (compressibility), F_e .
- Surface forces, F_s .