

# Building blocks...

## A modular approach

Once the contract to build a ship has been signed, the clock is running. The shipyard works to very detailed time schedules which set out the various construction phases of the ship.

Broadly speaking, the typical sequence of events in building a new ship starts with the workshop phase and the 'fitting out' of large sections, such as the engine room and bow section.

This is followed by a general building period in the construction dock. The final stage to completion is when the ship is floated out onto the 'fitting out' dock and serious work on the ship's interior can begin. Each phase takes approximately eight months.

### Cutting steel

The expression 'cutting steel' refers to the very beginnings of the ship building process when the flat plates and beams are cut to shape to make various sections or modules. These sections of steel, sometimes weighing up to a hundred tons, are moved around the shipyard to the different workshops on huge transporters.



A small steel section being transported in the shipyard. Note the driver's bicycle hooked on the back of his machine.

Using the most advanced technologies, the sections or modules are built in large workshops either in the shipyard or further a field.

For example, the lower bow section of the Noordam was built in Fincantieri's Ancona yard , over a hundred miles down the coast. The section was then floated and towed up to the Marghera construction dock, where it was welded into position.

This makes the building process much easier and more efficient because in a workshop, the modular segments can be rotated around and upside down. Welding is much simpler and the covered workshop affords protection from inclement weather conditions.

It also means that each module can be built with all the necessary cabling tracks, ducts and pipes that will be required for that particular section already in place. The modules are then usually painted inside and ready to be moved to the actual 'construction' dock.

By building the ship in sections most of the necessary work for a particular area can be carried out at one time thus eliminating the need to cut holes in the ship's superstructure at a later date.

The size of any particular module that can be built also depends on the lifting capacity of the shipyard's cranes.

Under construction...a module still in the process of being lifted into position. Note at the front of the picture, the ship's 'double bottom' with the tank spaces in between. Also in view is the strengthened foundations for two of the diesel generators.

