Shape Maker.

Flexible tool to be used in any stage of ship design.

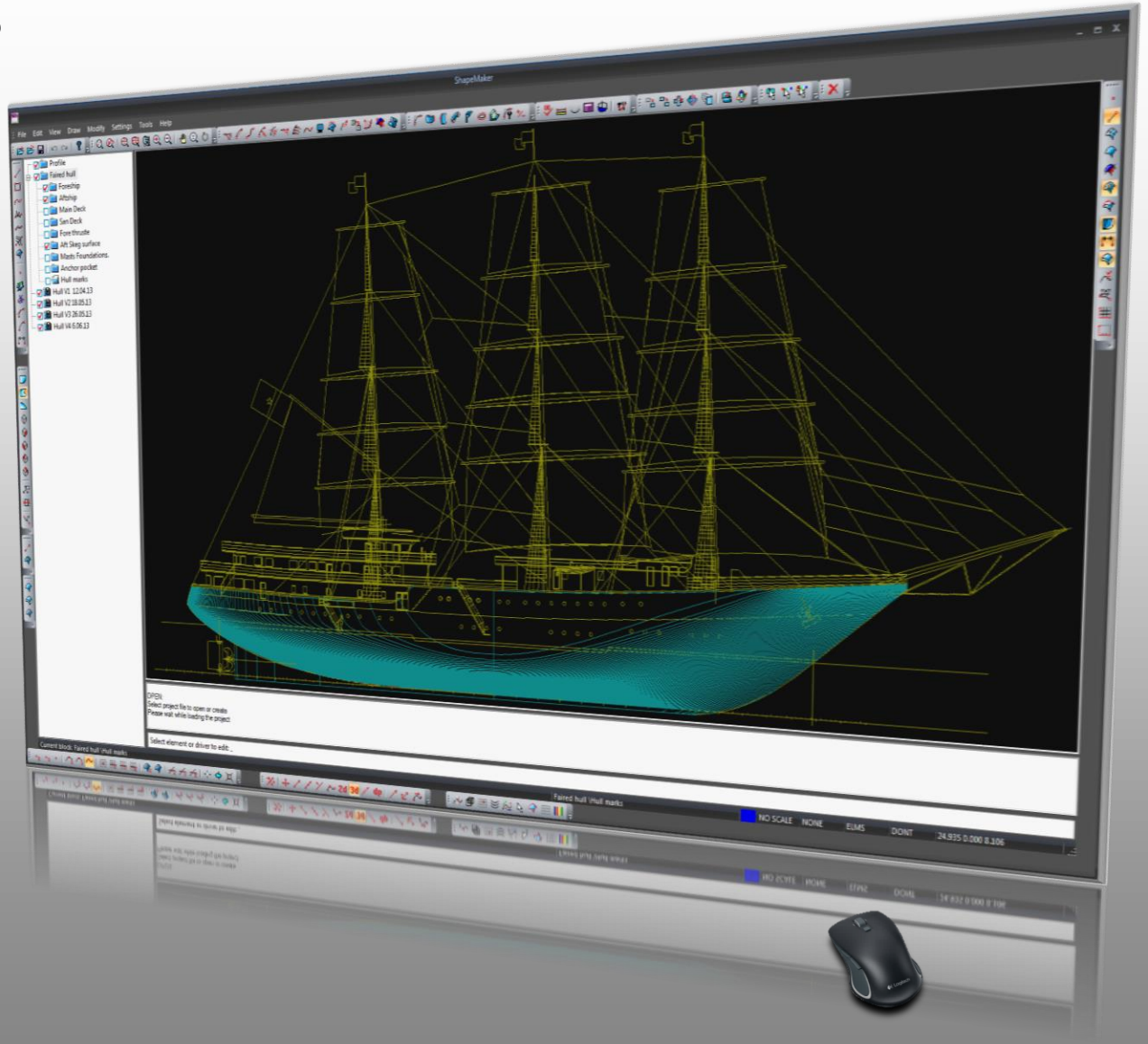
2017

Why ship surface is defferent from car or plane surface?

- Hull shape can’t be presented by traditional mathematical fairing methods.
- Ship is huge size object.
- Short time limit for surface development.
- Technological and hydrodynamic requirements at same time.
- Modeling methods in cars or plane industry can’t be used for ship design.
- More high requirements to hull shape quality.
- Hull surface is a classic free form surface.

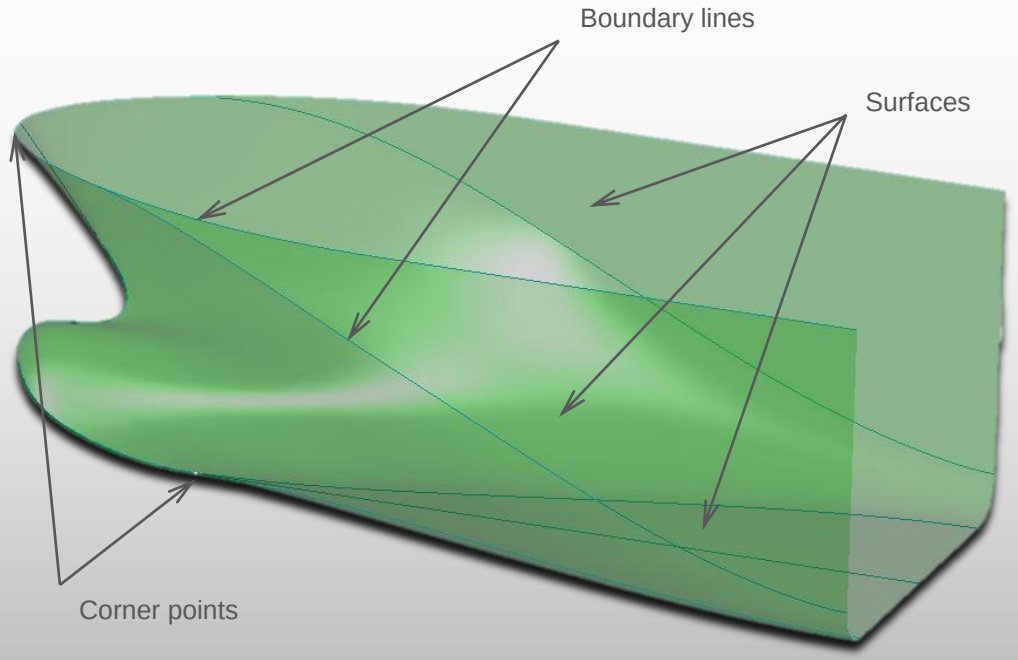
Why Shape Maker?

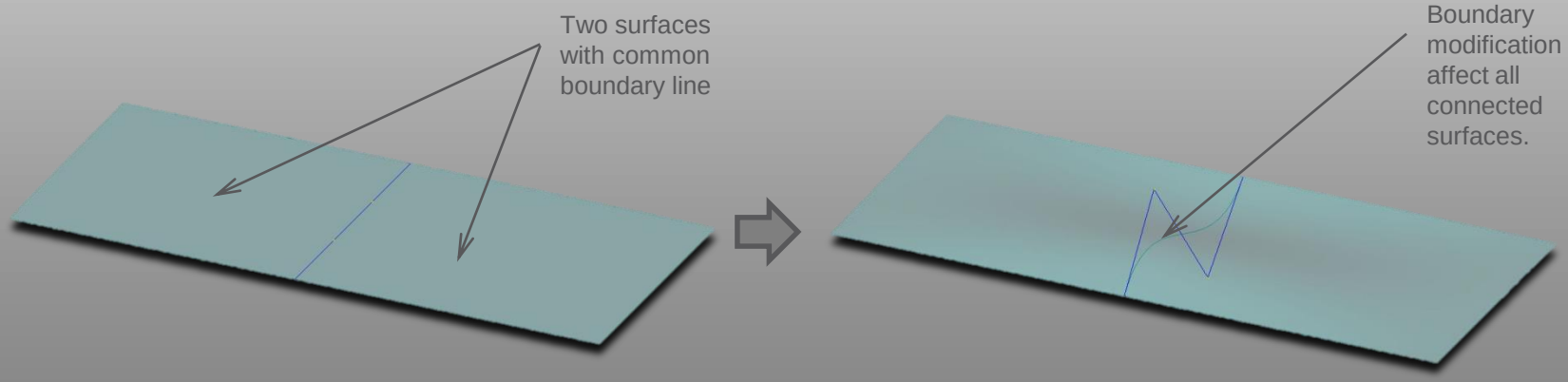
- It has no limitations in ship surface modeling.
- Cover both design and production stage.
- Solution for any specific requirements.
- Best design practice and experience.
- Flexible tools for surface modeling and modification.
- Dynamic surfaces editing and visualization.
- Advanced fairing and adjustment methods.
- Perfect fairness control.
- Hydrostatics characteristics calculation.
- CFD results visualization.
- Link to many different marine design software.
- Easy of use and simple interface.
- And many more…..



How it works?

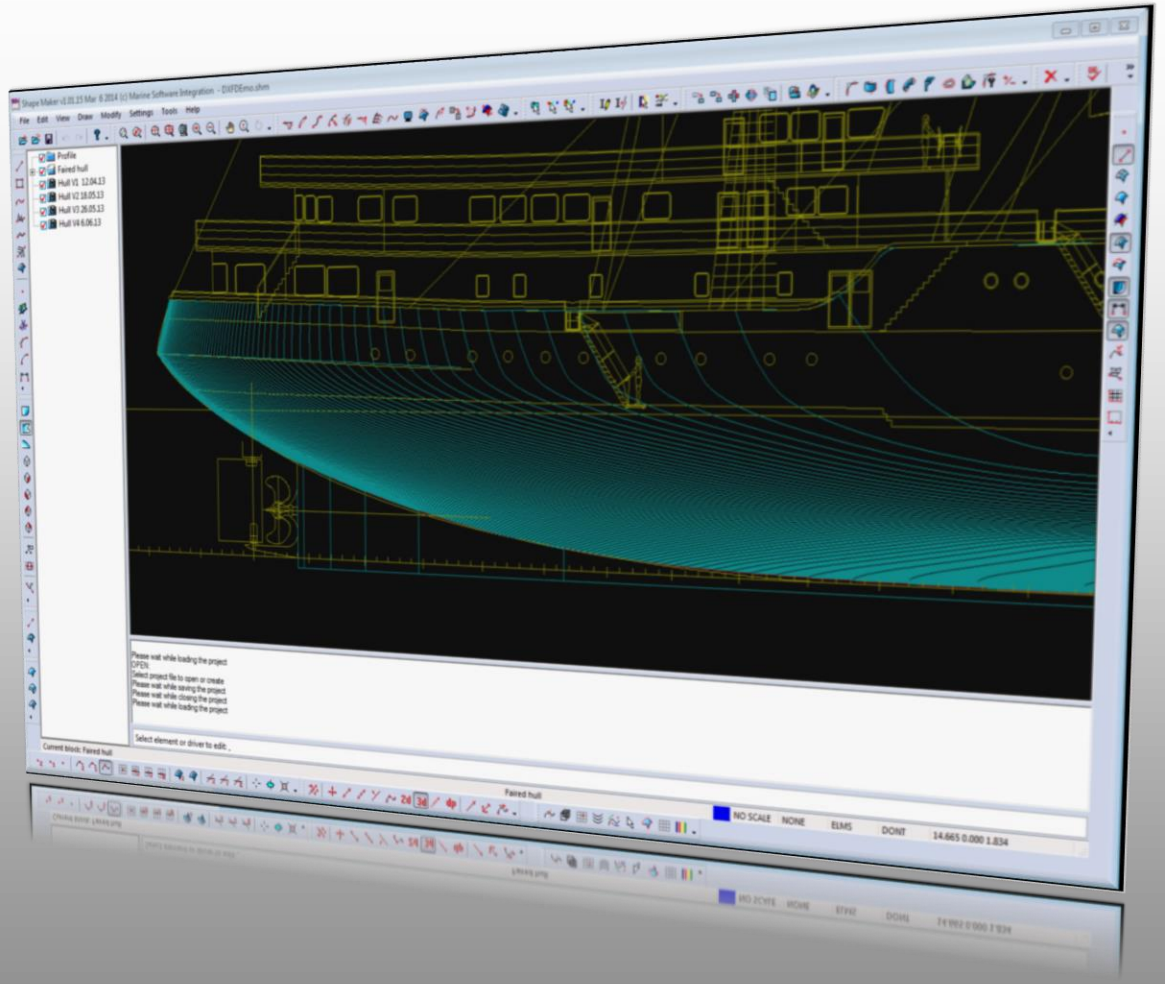
- Boundary representation model consist of points, boundary lines and surfaces.
- Each boundary line connected to end points.
- Each surface connected to boundary lines.
- All together: lines, points and surface forms shape where all elements are linked.
- After modification of the element all connected elements will follow the modification.
- Shape of the lines and surfaces can be changed by modification of their respective control points.





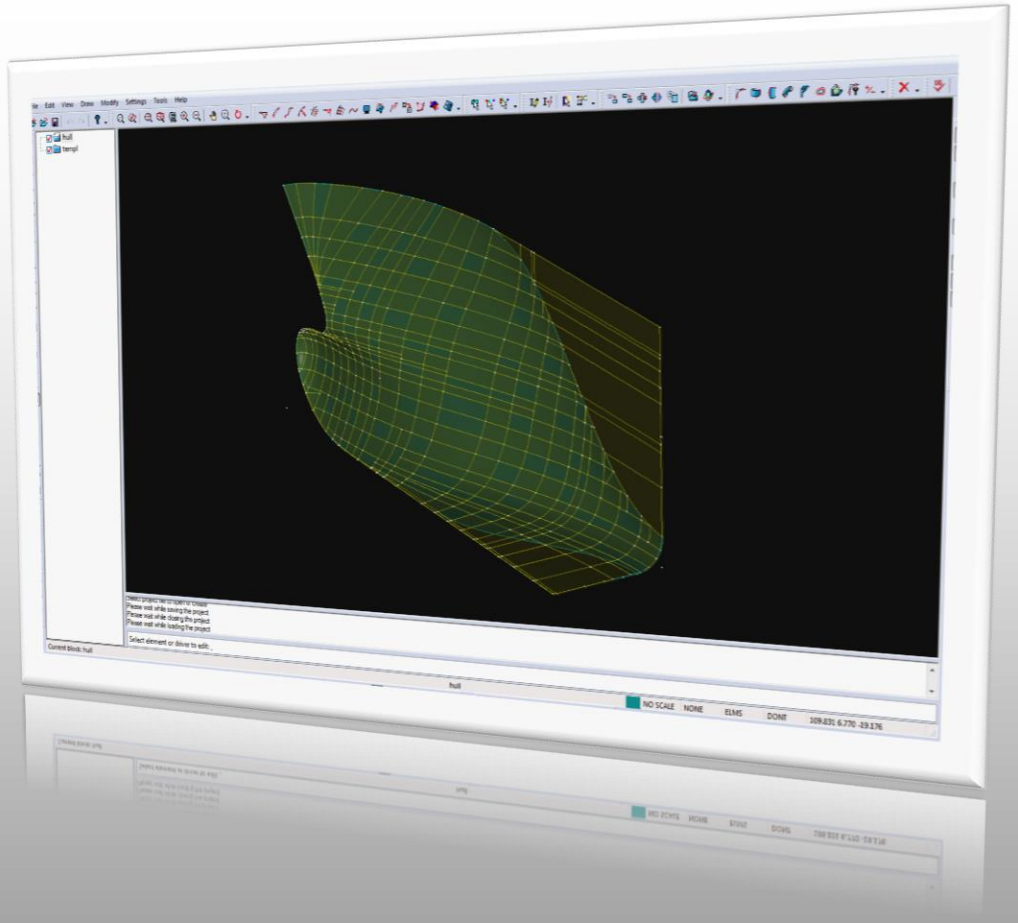
Start from scratch.

- Import DXF drawings into Shape Maker as prototype of new hull surface.
- Use DXF side and plans for creating preliminary hull lines.
- Begin with minimum number of control points.
- Increase control points number for more detail surface representation.



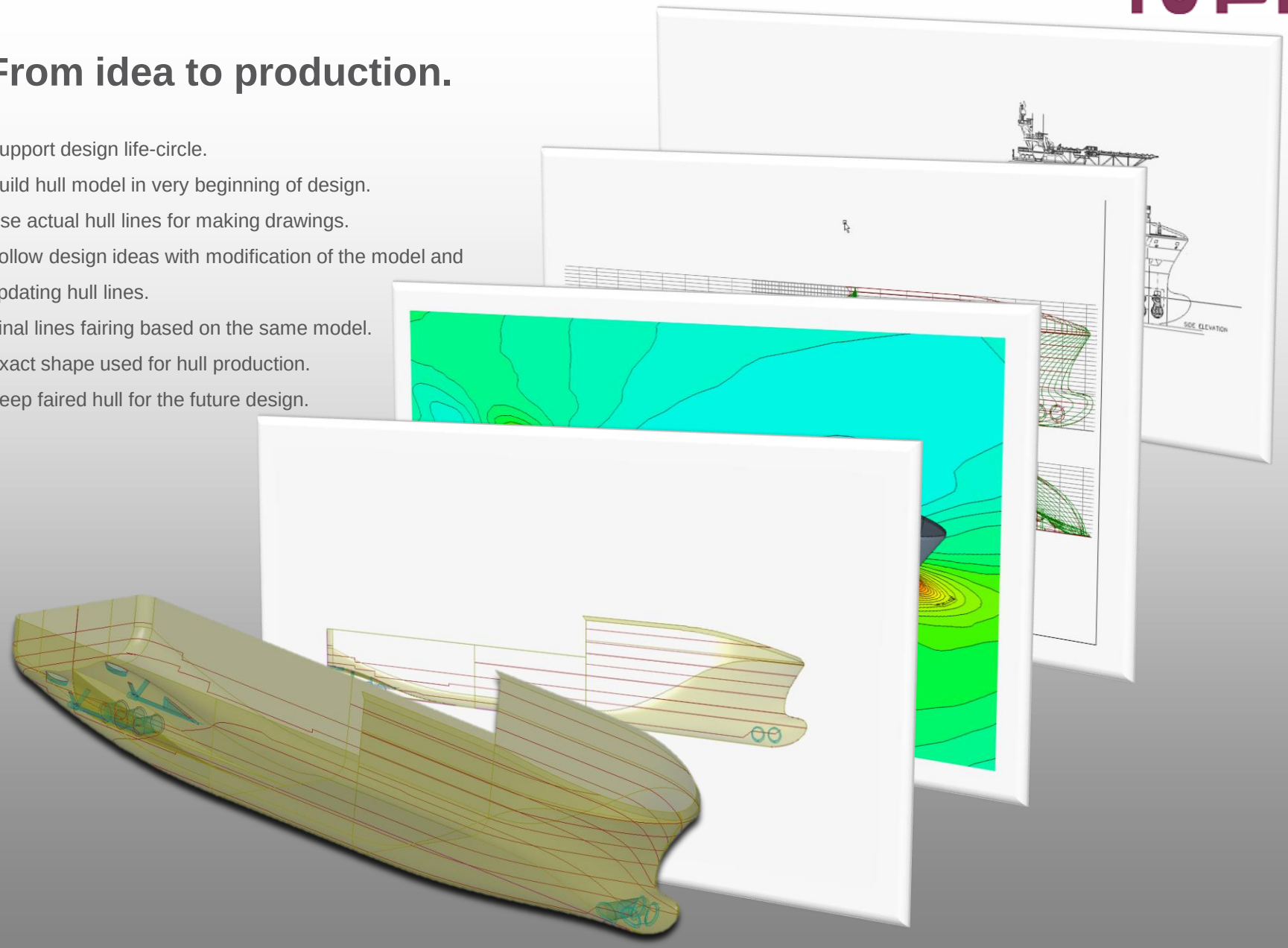
Start from prototype.

- Import and use IGES file with prototype surface
- 3D presentation of the prototype surface is a great help for surface modeling.
- Auto adjustment function can used.
- Any number of sections for shape control can be generated on IGES template surface.
- Any type of IGES files can be imported.



From idea to production.

- Support design life-circle.
- Build hull model in very beginning of design.
- Use actual hull lines for making drawings.
- Follow design ideas with modification of the model and updating hull lines.
- Final lines fairing based on the same model.
- Exact shape used for hull production.
- Keep faired hull for the future design.

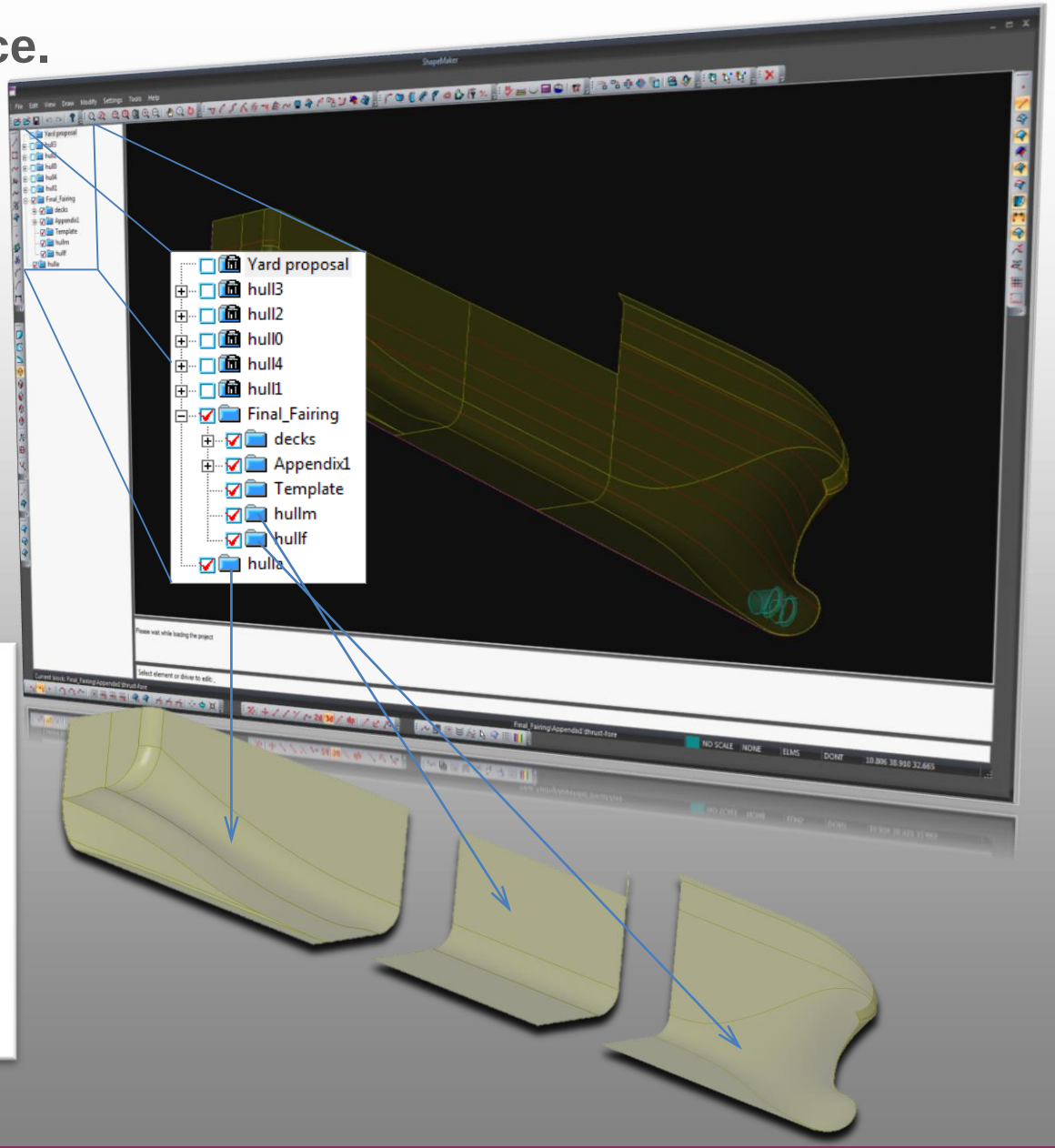


Enhance your experience.

- Store all shape revisions during design process.
- Use fore, aft and parallel mid body blocks division.
- The easiest way to make preliminary lines is to use lines from previous projects.
- Blocks transformation help to join blocks together.
- Every new hull shape may be used in future design.

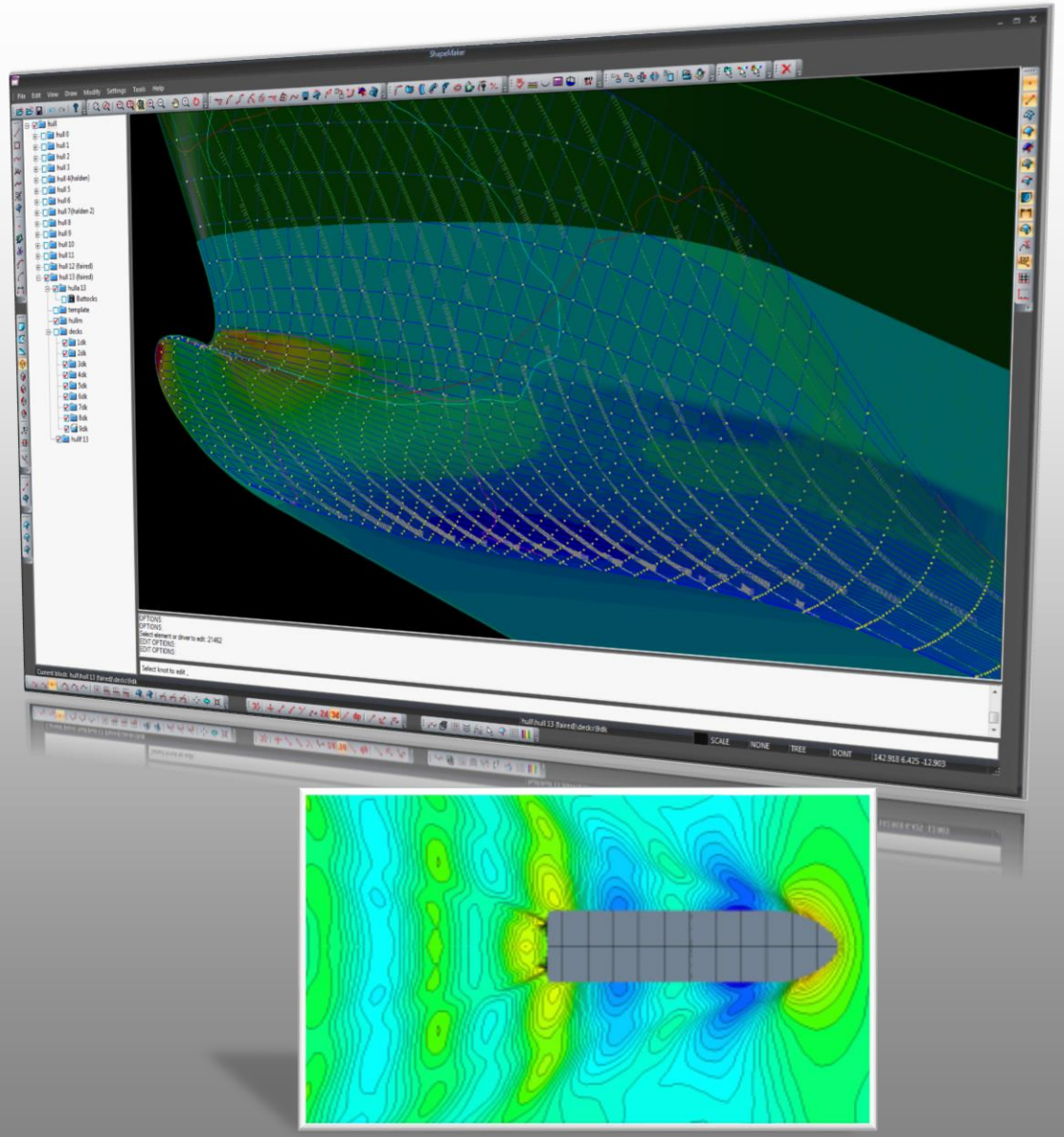
Block transformations.

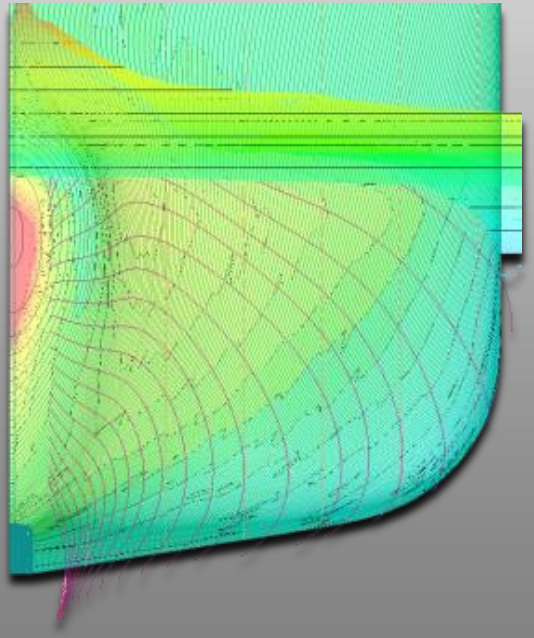
Fore ship block revisions.



Optimization of the hull performance.

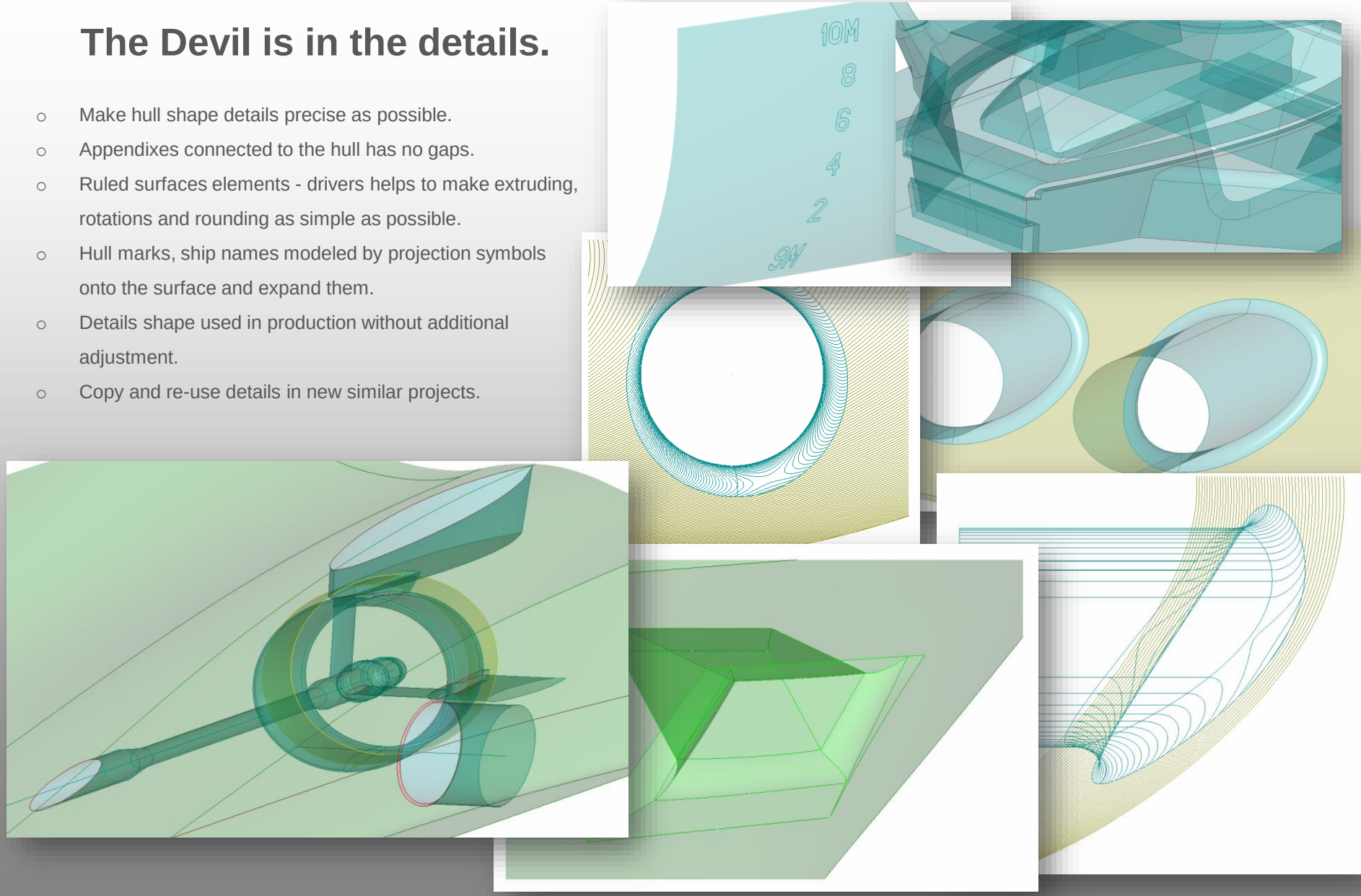
- Test your hull shape with computational fluid dynamics and show results together with hull shape.
- Modify hull shape and run CFD again.
- Save time and money by improving the surface before tank testing.
- Dynamical hydrostatics characteristics calculation helps to keep required values during hull surface modification.





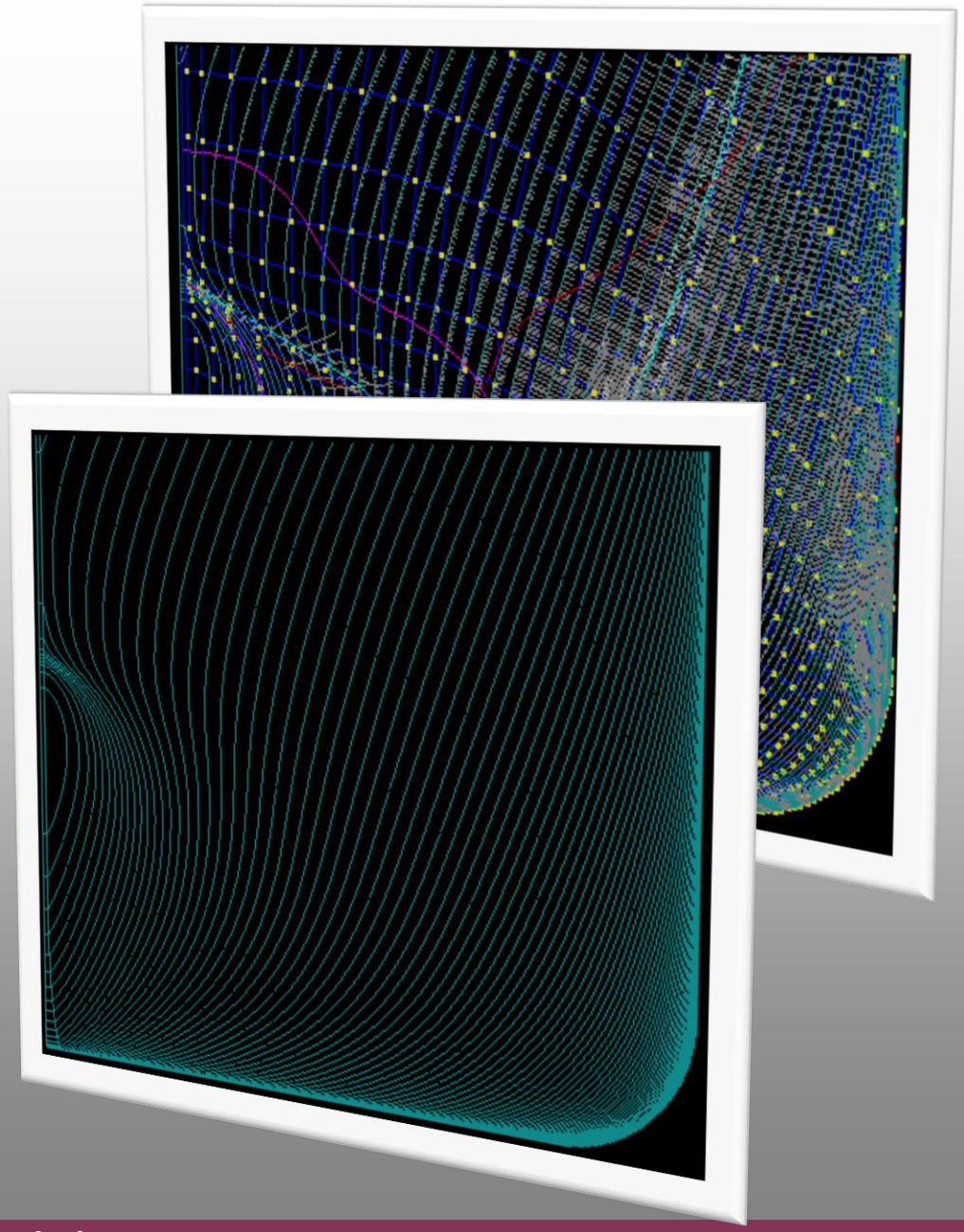
The Devil is in the details.

- Make hull shape details precise as possible.
- Appendixes connected to the hull has no gaps.
- Ruled surfaces elements - drivers helps to make extruding, rotations and rounding as simple as possible.
- Hull marks, ship names modeled by projection symbols onto the surface and expand them.
- Details shape used in production without additional adjustment.
- Copy and re-use details in new similar projects.



The process of making perfect lines fairing has no limits.

- Gradually increase number of control points for more and more precise fairing.
- More control points helps to modify surface locally and give better surface fairness.
- Use hull lines curwature and inflection lines for quality control of the surface. These will show all “lumps and bumps” and local unfairess.
- Surface bending energy minimization fairing method is used.
- Don’t spend time for plotting lines drawing – use compressed view for visual checking lines.



Marine Software Integration.
2017