

D-LASS

Dutch network for lightweight applications at sea

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Chairwoman, CompositesNL

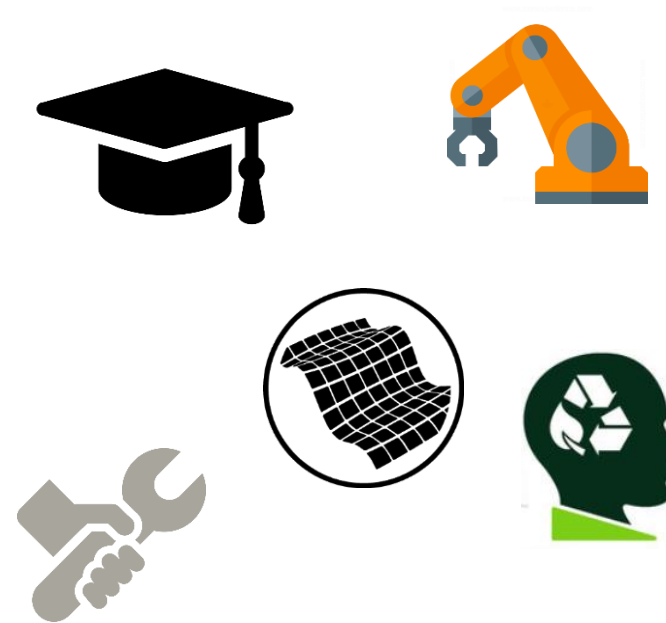


CompositesNL

CompositesNL is the Dutch trade association that represents the interests of all parties in the Netherlands that are involved in **composites technology**.

Our members are involved in

- Development
- Manufacture
- Maintenance
- Reuse of products



Netherlands Composites Sector

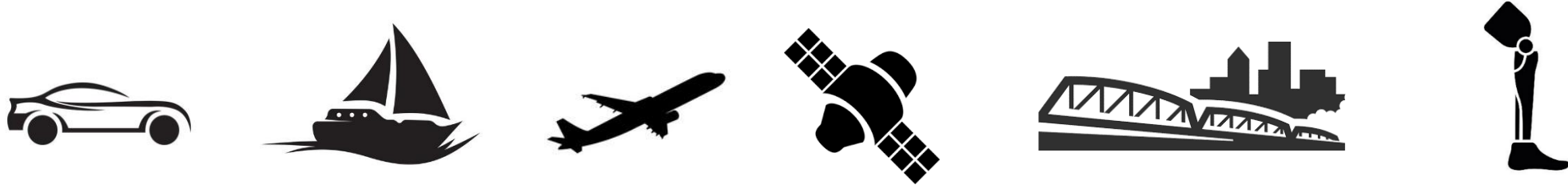


Dutch composites sector

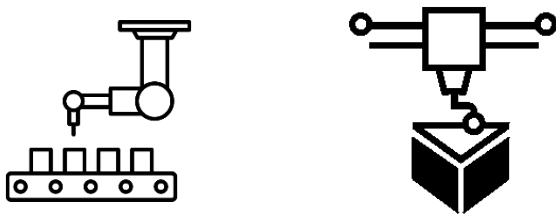
- >120 companies/organisations
- 1500 employees
- € 150 mln. revenues per year
- 90 % export
- High degree of knowledge

Netherlands Composites Sector

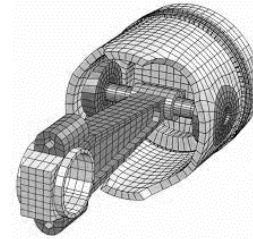
Markets



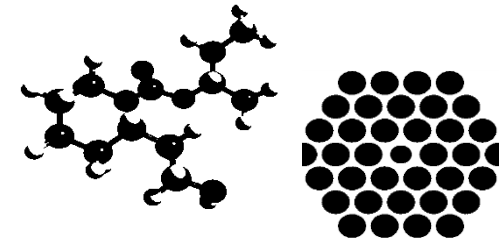
Automation & Rapid Manufacturing



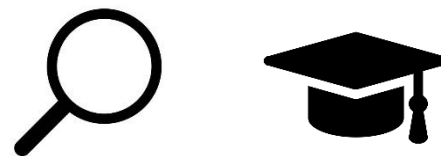
Engineering



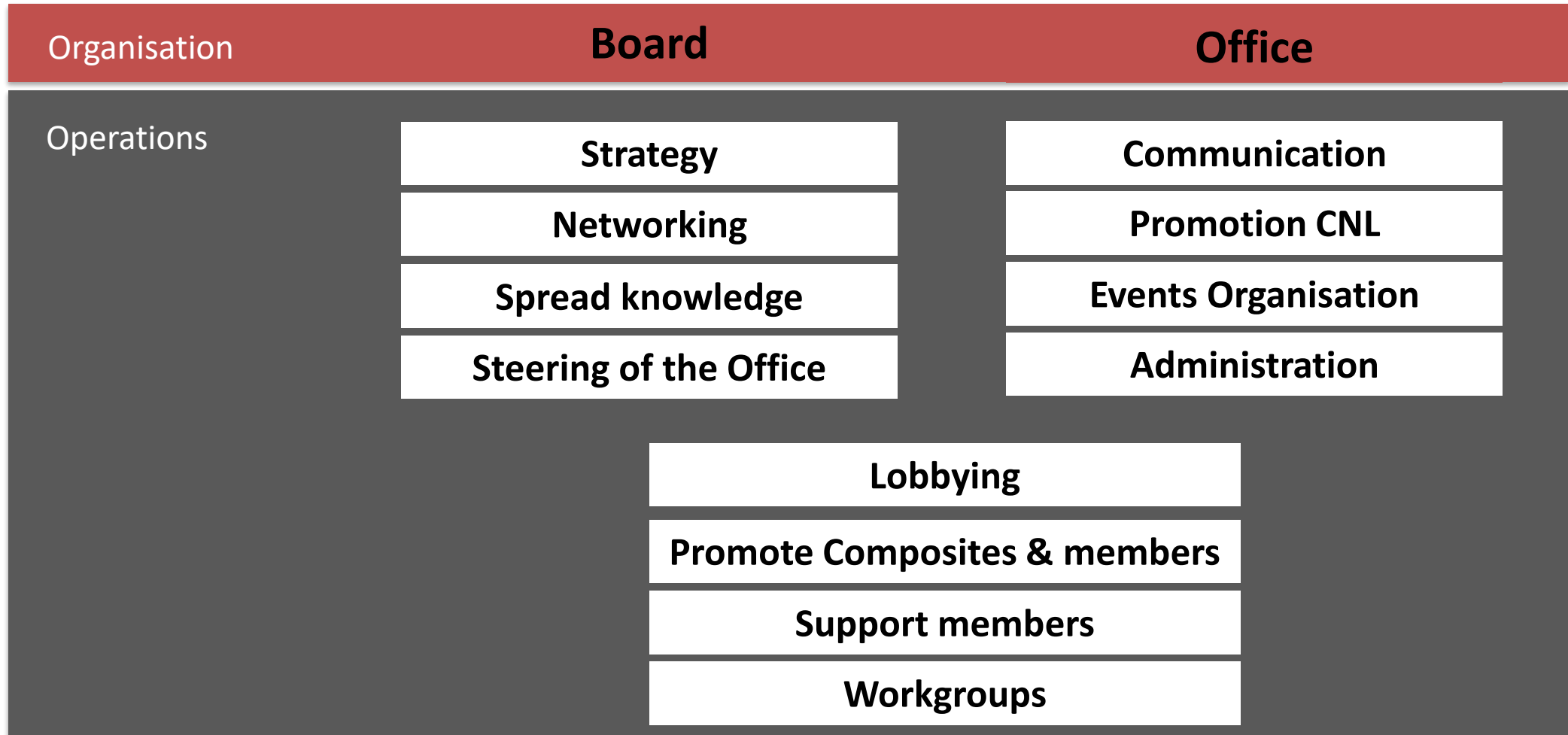
Materials



R&D and Education



CompositesNL – the organisation



CompositesNL – work groups

Promotion of composites

Lobbying

Team

Members

Board

Office

Work Groups

Sustainability

Education

Regulation and
compliance

Thermoplastics

Maritime

International
Promotion

A partnership born from shared goals



D-LASS

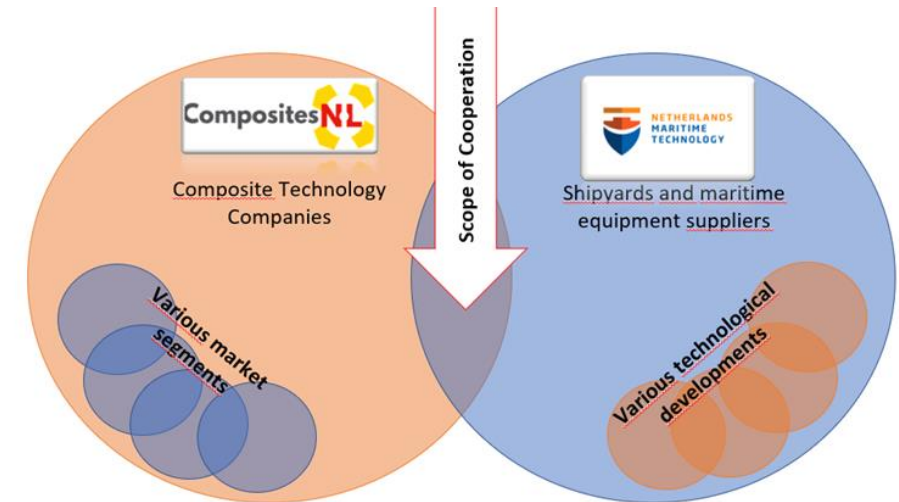
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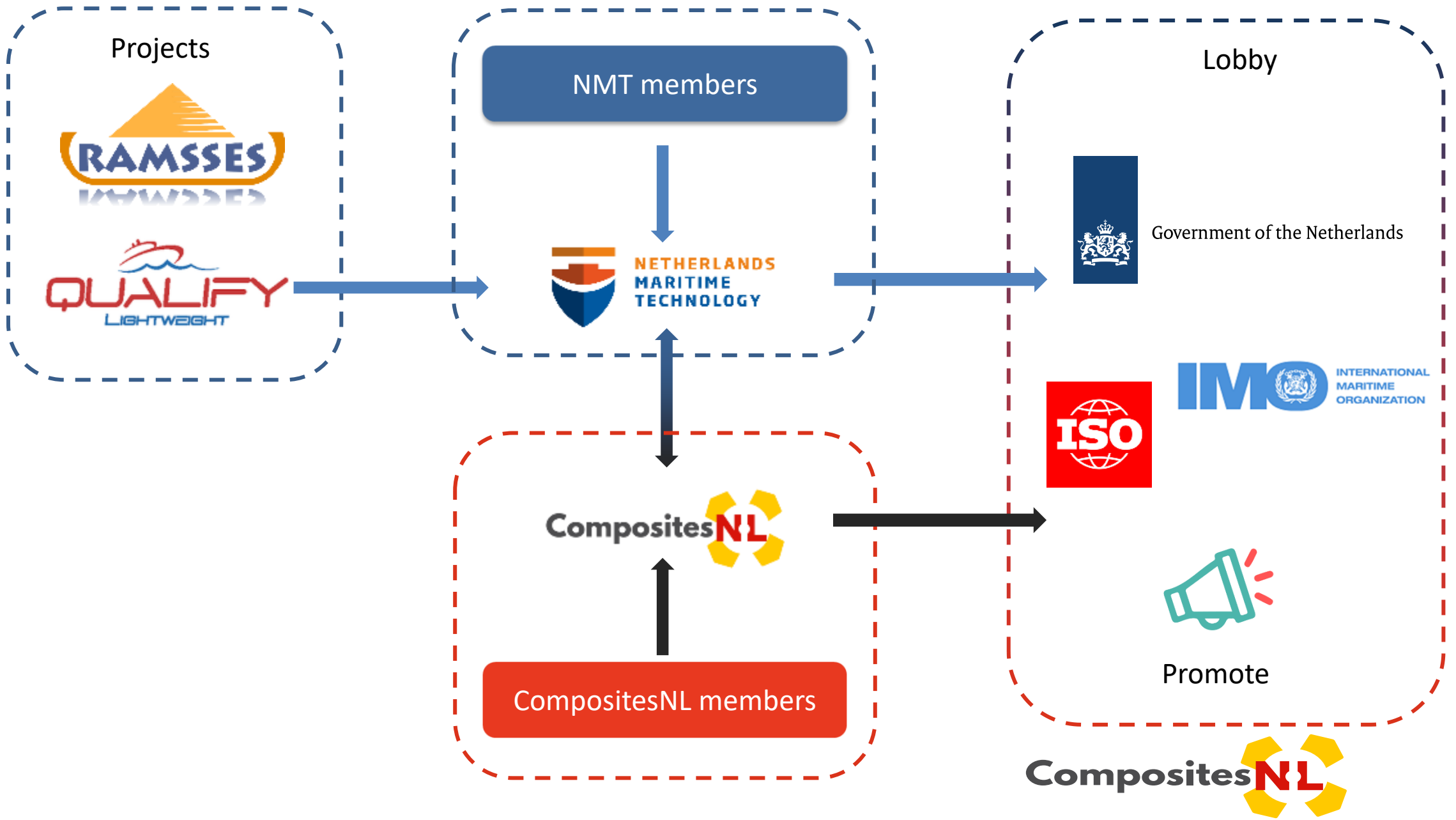


A partnership born from shared goals

Cooperation NMT & CNL

- 40 % of CNL members are active in maritime & offshore
- Dutch shipbuilding innovation is well-known
- Ambition: first SOLAS approved FRP ship
- Cooperation, Knowledge-sharing
- Pro-active advisory support to Rule-makers (e.g. Flag State)
- Lobby





Dutch composites agenda

Set up by CompositesNL

Input from Netherlands Maritime Technology

Follow-up along 5 themes specific to Maritime:

- Law and regulation

- Access to knowledge and expertise

- Training personnel

- Cost and lead-time reductions

- Business case



Major result for D-LASS

The Dutch Composite Agenda was revealed at JEC 2019

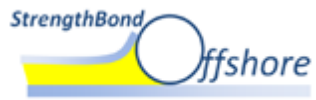
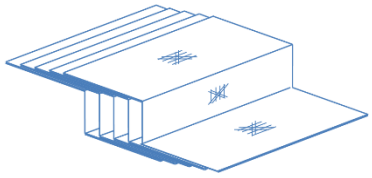
Mentioned examples are: hull, deck, mast, doors, hatches, propellor, etc

Support of Government

Ministry of Economic Affairs and Climate Policy
considers FRP as a key technology

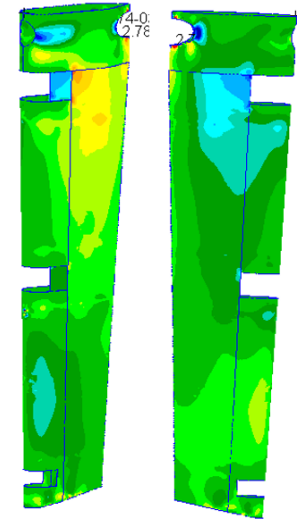


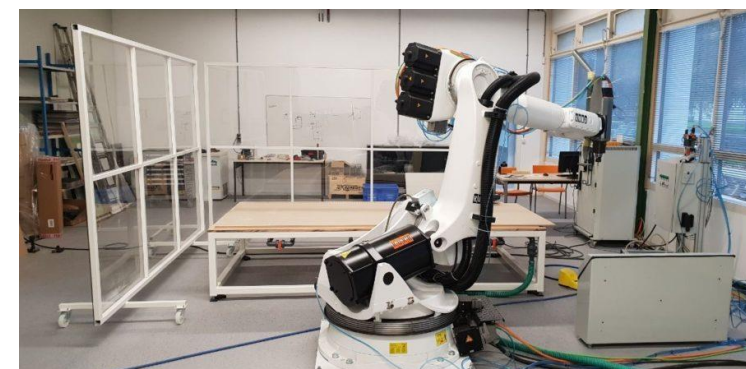
Showcase Dutch companies - maritime



The InfraCore® technology offers a standardized and modular structural approach, which enables the realization of proven and validated cost-effective (both OPEX/CAPEX), easily scalable, lightweight, durable, maintenance free, heavy duty, damage tolerant, load bearing FRP structures

Licenses available







DAMEN waterbus: fullfills EC directive 2006/86 for passenger vessels





Manufacturing of high-end and highly loaded yacht structures



Maintenance and repair



SchaapComposites

adel
polyester

POLYnautic
custom builders

RONDAL

DAMEN
SHIPREPAIR & CONVERSION

Showcase Dutch companies – towards sustainability

Nedcam goes circular!

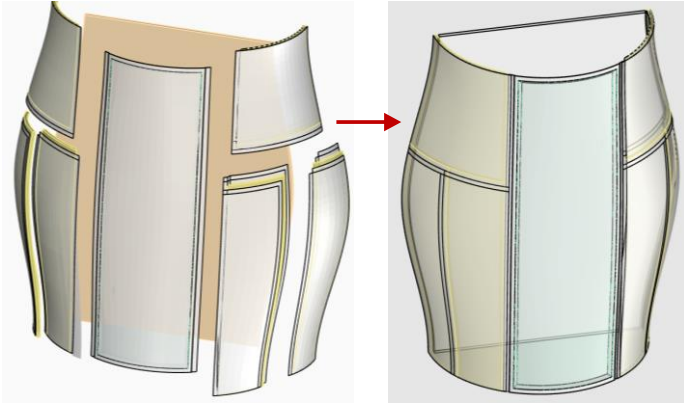


- 3D Printing of models with **Thermoplastic** (reinforced) plastics
- 100% recycleble!
- Milling the surface CNC
- Plugs, Moulds & Parts
- Enviromental and economical benefits

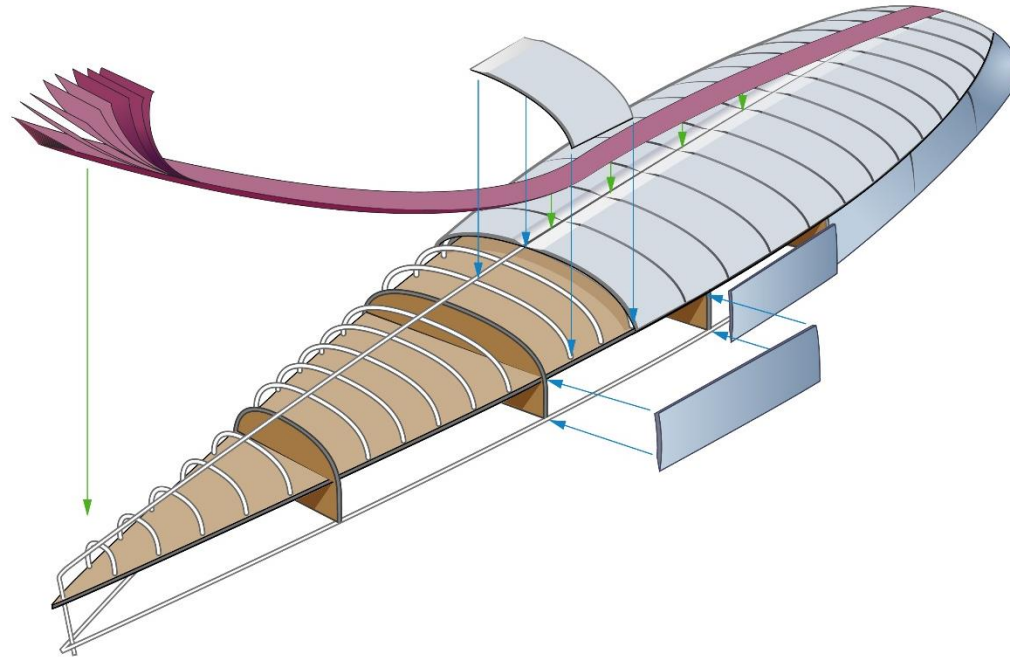




| Curved Panels + Panel Assemblies



Tool-less
manufacturing of
large structures



Key technologies:

Adaptive mould
3D Composite Kits
Composite Sandwich panels
Laminated wood panels





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- + (FUEL) EFFICIENCY IMPROVED
- + NOISE REDUCTION
- + IMPROVED CAVITATION

BEND-TORSION COUPLING RESULTING IN CONTROLLED
CHANGE OF BLADE-PITCH

COMPOSITE PROPELLER

Pushing boundaries - Solar boat teams



Concluding comments

The Netherlands enjoys a complete ecosystem enabling a strong composites industry active in many markets. Regarding maritime applications there is an excellent knowledge base and heritage to apply composites into larger structures.

Partnering with our sister trade association, Netherlands Maritime Technology, strengthens both our lobbying efforts to highlight the importance of composites technology in achieving sustainability goals at the Dutch and European level.

Thank you