



#### Features summary:

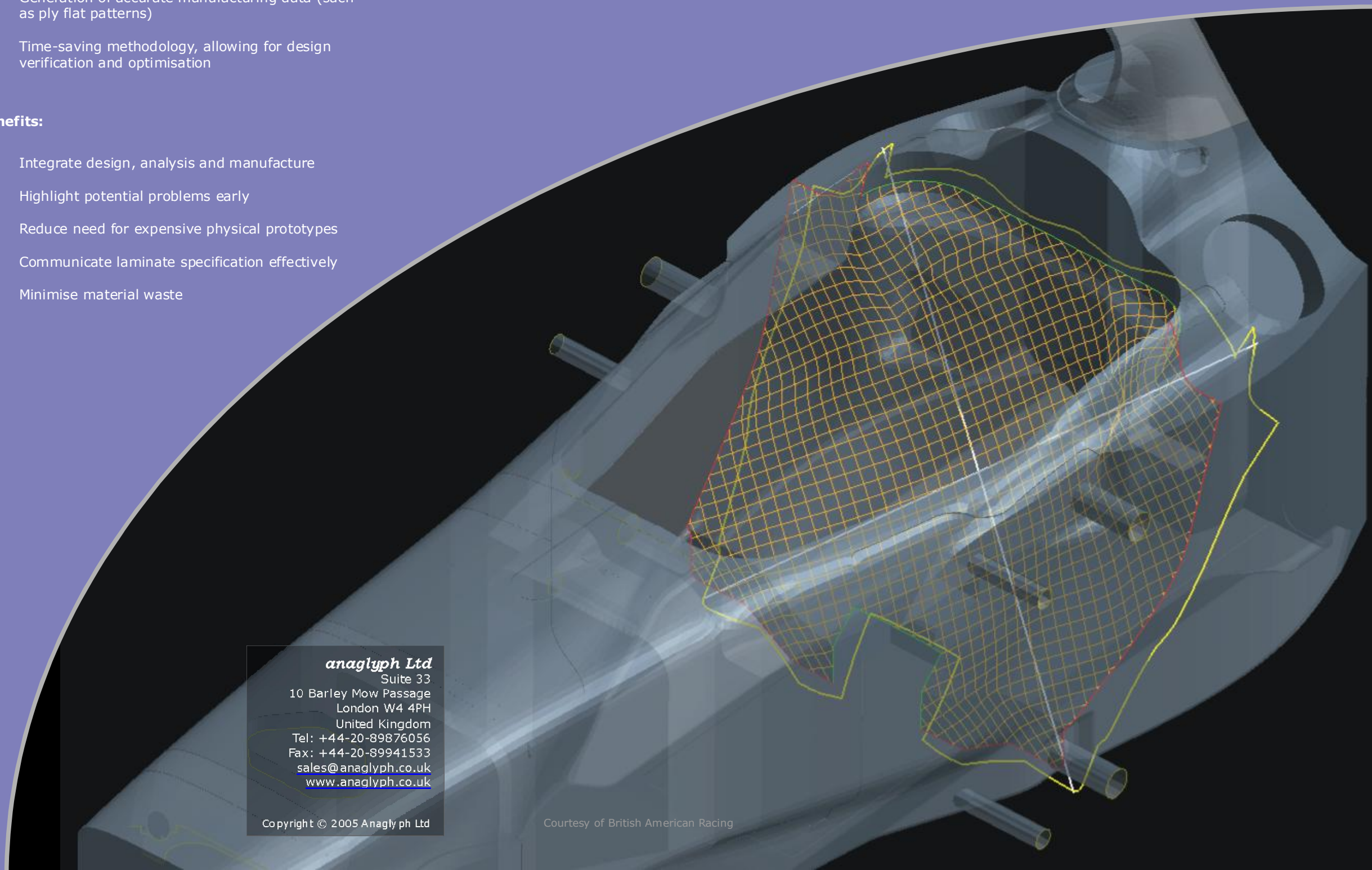
- ✓ Well tested draping technology
- ✓ Interfaces to industry standards (Nastran, MSC.Patran, Femap, Abaqus, HyperWorks, Ansys, FiberSIM, CAD)
- ✓ Quick and accurate specification of laminate designs reflecting the ply based physical composition of the structure
- ✓ Communication of structural details widely improved, as compared to traditional methods
- ✓ Analysis model generation
- ✓ Unique FEA post-processing
- ✓ Generation of accurate manufacturing data (such as ply flat patterns)
- ✓ Time-saving methodology, allowing for design verification and optimisation

#### Benefits:

- ✓ Integrate design, analysis and manufacture
- ✓ Highlight potential problems early
- ✓ Reduce need for expensive physical prototypes
- ✓ Communicate laminate specification effectively
- ✓ Minimise material waste

# Laminate Tools

**A revolutionary Windows application to aid engineers in the design, analysis and manufacture of laminated composite structures.**



#### **anaglyph Ltd**

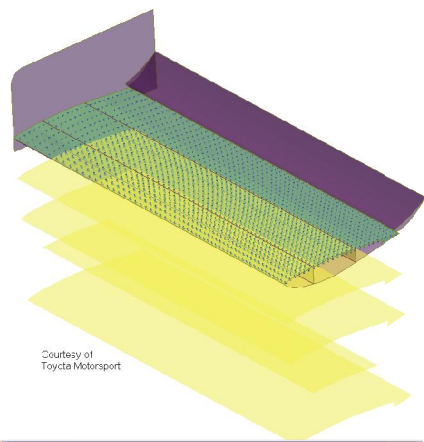
Suite 33  
10 Barley Mow Passage  
London W4 4PH  
United Kingdom  
Tel: +44-20-89876056  
Fax: +44-20-89941533  
sales@anaglyph.co.uk  
[www.anaglyph.co.uk](http://www.anaglyph.co.uk)

Copyright © 2005 Anaglyph Ltd

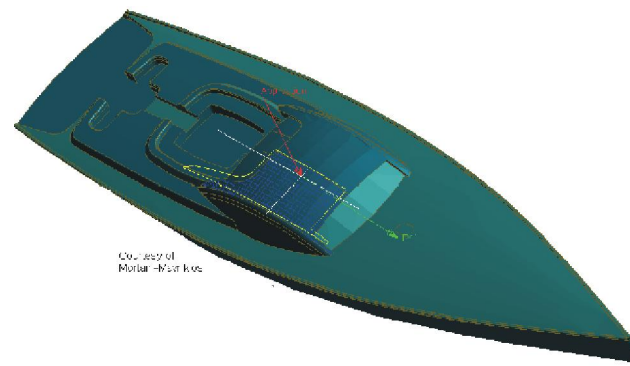
Courtesy of British American Racing



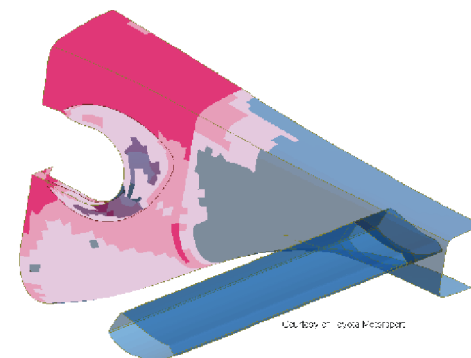
# LaminateTools



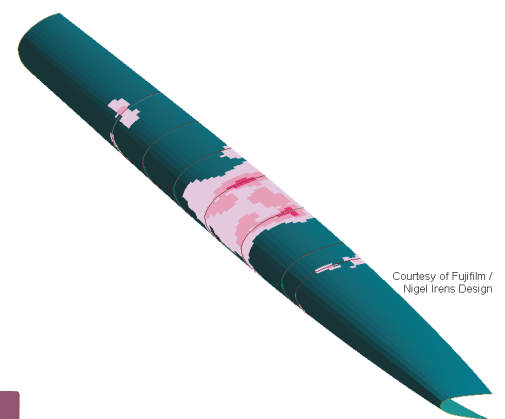
Courtesy of Toyota Motorsport



Courtesy of McLaren-Honda F1



Courtesy of Oracle Research

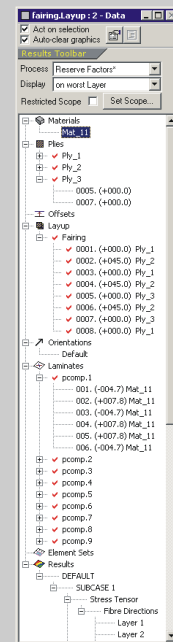
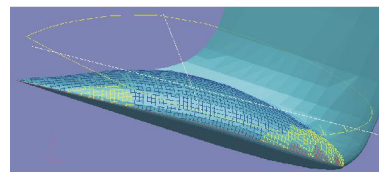


Courtesy of Fujifilm / Nigel Irens Design

Layer	Material	Thickness	Angle	Type	Apply To
1	001	0.001	0.0	0.0	0.0
2	002	0.001	0.0	0.0	0.0
3	003	0.001	0.0	0.0	0.0
4	004	0.001	0.0	0.0	0.0
5	005	0.001	0.0	0.0	0.0
6	006	0.001	0.0	0.0	0.0
7	007	0.001	0.0	0.0	0.0
8	008	0.001	0.0	0.0	0.0
9	009	0.001	0.0	0.0	0.0
10	010	0.001	0.0	0.0	0.0
11	011	0.001	0.0	0.0	0.0
12	012	0.001	0.0	0.0	0.0
13	013	0.001	0.0	0.0	0.0
14	014	0.001	0.0	0.0	0.0
15	015	0.001	0.0	0.0	0.0
16	016	0.001	0.0	0.0	0.0

## Design

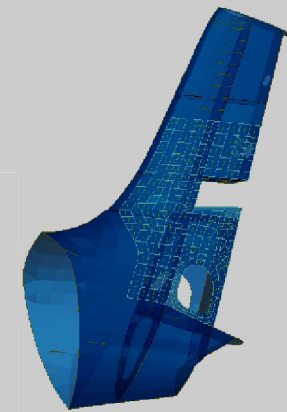
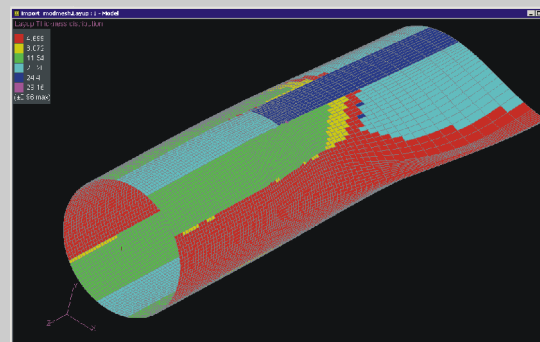
**DESIGN** the composites aspects for your structure. Build the entire Layup by simulating the draping of fabric material over complex surfaces. Review and make rapid changes before finalising the plybook.



## View

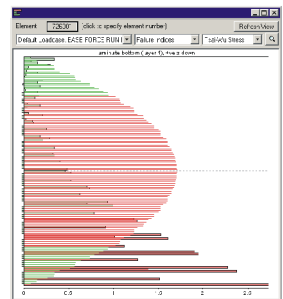
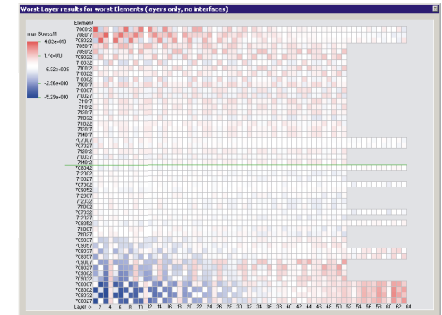
**VIEW**, interpret, verify, share, communicate and safeguard all the composite materials information.

Use industry-standard methods and proven technology to minimise design time.



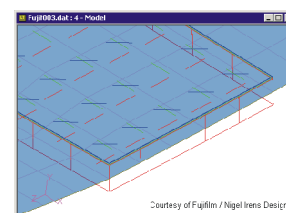
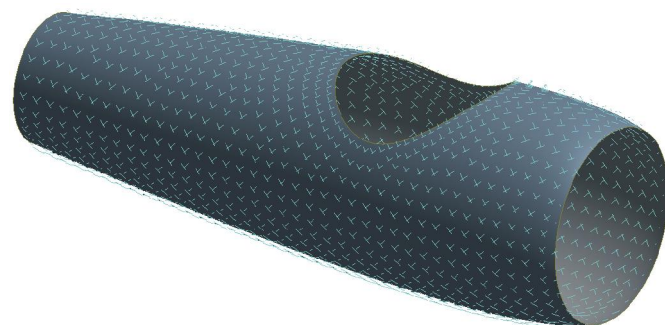
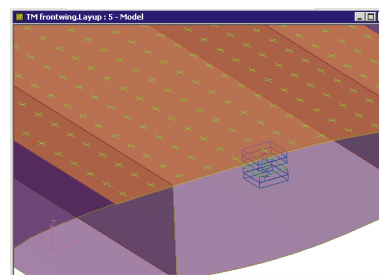
## Check

**CHECK** FEA results and use Laminates Tools to generate new Failure Indices, Margins of Safety and Reserve Factors, or even layer stresses. Examine results by loadcase, by layer, by global ply, layer by layer for each element, group worst elements, etc.



## Analysis

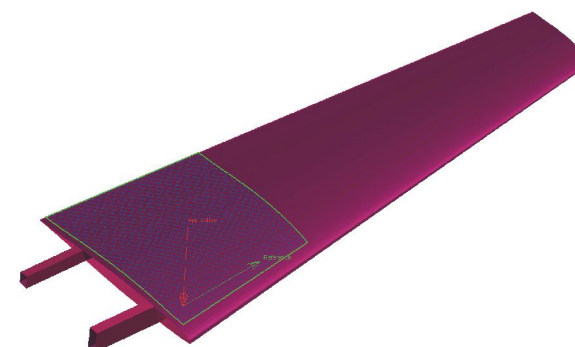
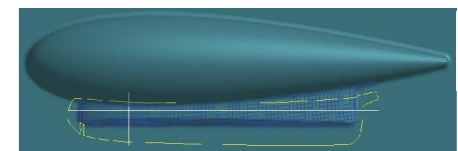
**ANALYSE** the composite Layup by converting the global ply draping results to accurate local element material properties (laminates) for use in FEA.



Courtesy of Fujifilm / Nigel Irens Design

## Manufacture

**MANUFACTURE** exactly what has been designed. Use Laminates Tools results to nest, cut and place (project) the flat patterns with third-party products. Allow shop-floor personnel to access the native information for best results.



Order	Global ID	Ply	Material	Analysis Material	Thickness	Def Angle	Type	Applicable	Angle Offset
1	100	0	001	001	0.001	0.0	0.0	0.0	0.0
2	101	0	002	002	0.001	0.0	0.0	0.0	0.0
3	102	0	003	003	0.001	0.0	0.0	0.0	0.0
4	103	0	004	004	0.001	0.0	0.0	0.0	0.0
5	104	0	005	005	0.001	0.0	0.0	0.0	0.0
6	105	0	006	006	0.001	0.0	0.0	0.0	0.0

Drape it ~ Check it ~ Make it