

# CNC Machining Capabilities Overview

Presented by:  
Paul Jackman





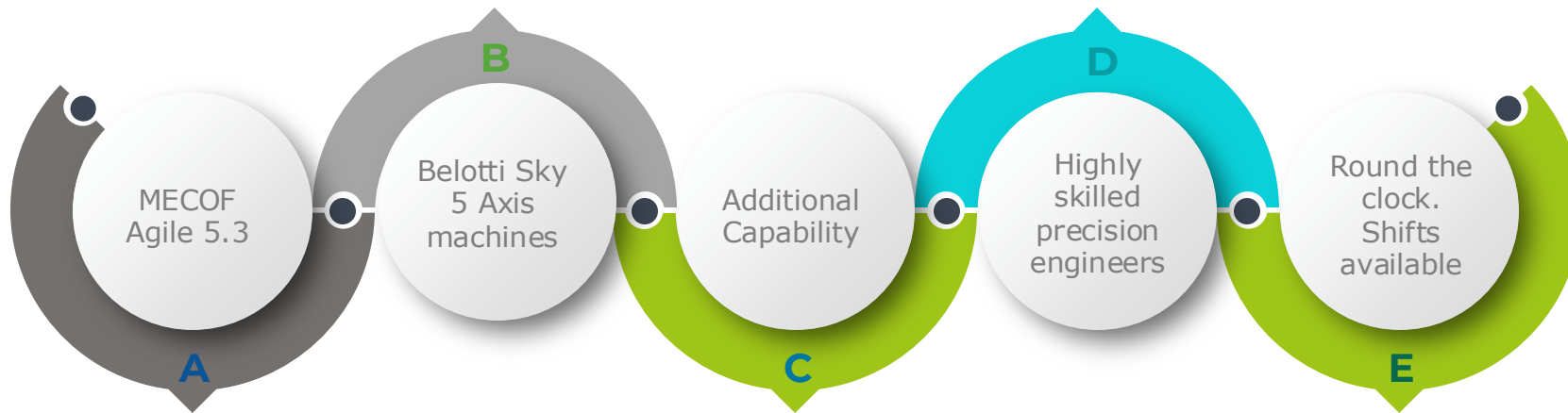
# About us

- Established 2009
- 3 sites Coventry UK, 1 site California USA
- Covering various sectors including, Automotive, Aircraft, Rail, Marine and Architecture
- Concept Design & Engineering
- Prototype Exterior & Interior
- Production
- Manufacturing
- Show Cars, Feasibility Models, Package Bucks
- Putting innovative materials, finishes and ideas into high quality products and prototypes
- Quality Accreditations ISO9001 ISO14001



# CNC Capabilities

Large scale properties with unmatched precision, incredible speed and advanced manufacturing capabilities.

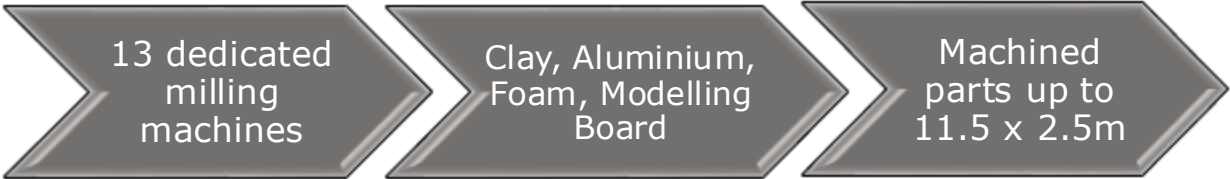


- CNC machining capacity with 13 dedicated machines
- MECOF, BRIDPORT, CORREA, HURCO, CMS, BELOTTI and XYZ
- Combination of 5 axis and 3+2 axis
- Envelope size up to 11.5m x 2.5m, plus rotating table
- Multiple materials with speciality in Composite Board and Aluminium





# CNC Machining



	X	Y	Z
MECOF	11500	1500	2400
CORREA DIANA	2000	1000	800
CORREA DIANA	2000	1000	800
BRIDEPORT	1000	600	550
CORREA A30	3000	1100	800
CORREA C17	2000	800	600
HURCO VMX60	1500	800	500
HURCO VM30	1270	500	400
CMS ANTERES	2500	1500	500
CMS ARES	3600	2500	1000
XYZ	550	350	400
BELOTTI SKY 3630	3600	3000	1300
BELOTTI SKY 2617	2600	1700	1300

Measurements in mm







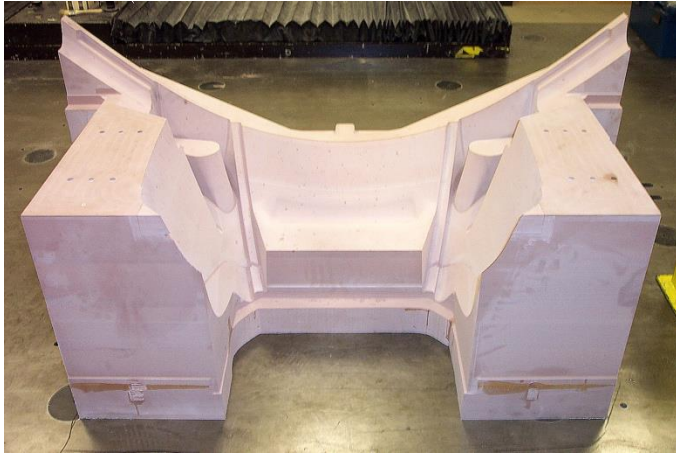
# Tooling – from one off to production

Tool development appropriate to scale and rate of production:

- Hammer-form
- Composite
- RIM
- Vac-form
- Press
- Bespoke display items and Movie/Stage Props





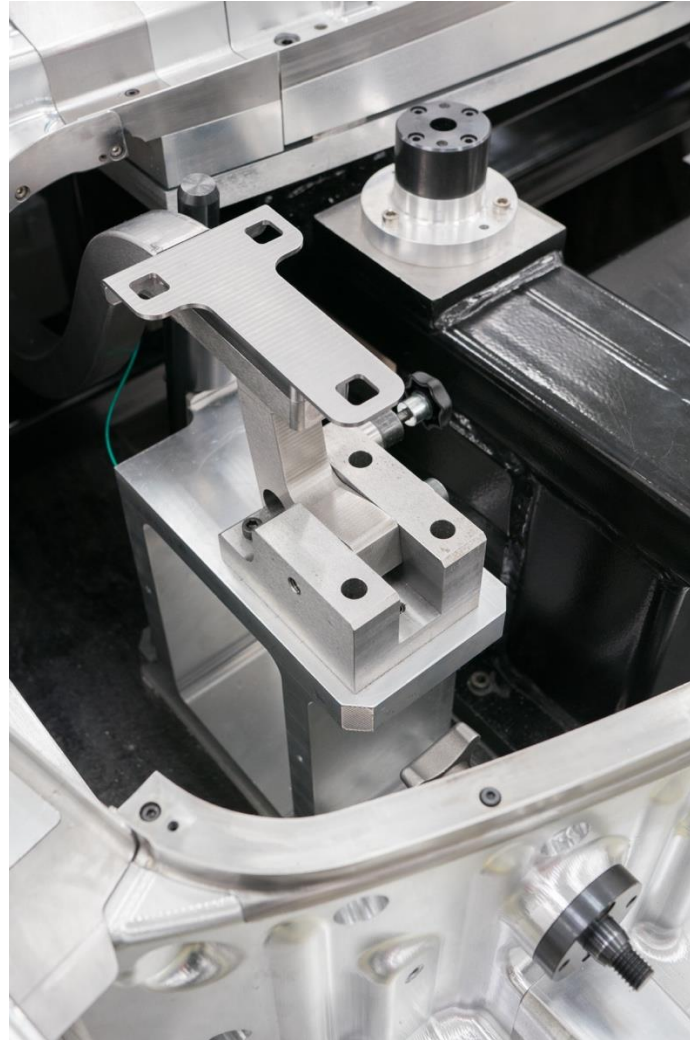


# Dimensional

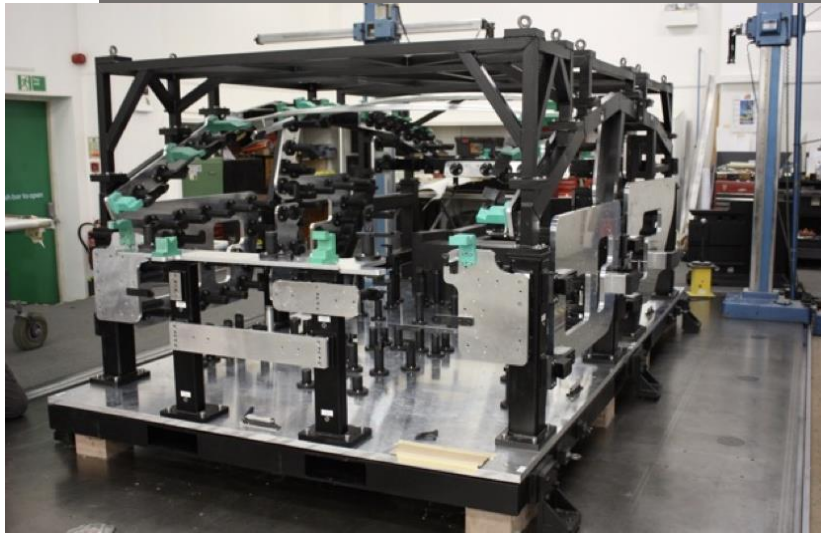


- Environmental Cubes
- Local Exterior Cubes
- VOWA Cubing Property
- Fixtures
- Ergo / Usability / Durability Bucks & Rigs
- Design Check Property(DCP)
- Interior / Exterior Verification Models (IDKM/EDKM)





# Fixtures



## Development Fixtures

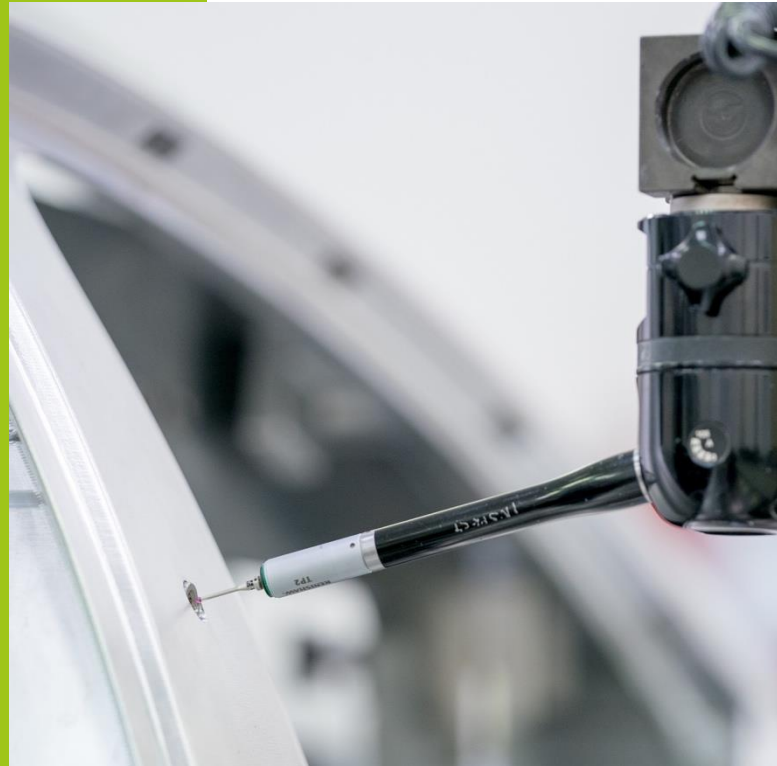
- Brightware development
- Door seal development
- Side door drop glass
- Tailgate seal development
- Interior Trim Development
- Bodyside Seal Development
- Aperture Gauges

## Prototype & Assembly Fixtures

- Bonding
- Weld
- Machining
- Routing
- Prototype assembly
- Production assembly
- Trackside hand application

## Dimensional Fixtures

- Environmental Cubes
- Local Exterior Cubes
- VOWA Cubing Property
- Fixtures
- Design Check
- Property(DCP)





# Show Vehicles & Models

Show Vehicles, concept, and prototype vehicles including:

- CNC machining of 3D physical models
- Clay Modelling
- Full size
- Scale models
- Driveable cars
- Ability to “drive” vehicle remotely



# Metal Forming

Delivering the ultimate level of craftsmanship, luxury and quality.

Keeping heritage products and hand-working skills alive, complimented with latest digital technology for data capture and quality assurance.

Whether recreating a classic car, crafting an ornate staircase, a commissioned piece of art or a one-off new car design.



## Tooling – one off to production

- Hammer-form
- Composite
- RIM
- Vac-form
- Press

## Prototype Manufacture

- Hand-crafted metal products
- Full vehicle body in white
- Classic vehicle recreation
- Prototype & Low Volume Production

## Services

- Niche Cars
- Restorations & Recreations of Vintage Vehicles
- Bespoke Products
- Low Volume Panel Supply





# Engineering

Our engineers are highly experienced and adaptable, drawn from work across multiple sectors, including all classes of transport from city cars, supercars and trucks to aircraft.

Work at Concept phases, through to design, development and testing, including analysis and simulation.

- Body Engineering
- Coach Build Vehicles
- Body Structures
- Vehicle Aerodynamics
- Seating & Seating Bucks
- Perceived Quality
- Dimensional Engineering

# Paint Technologies

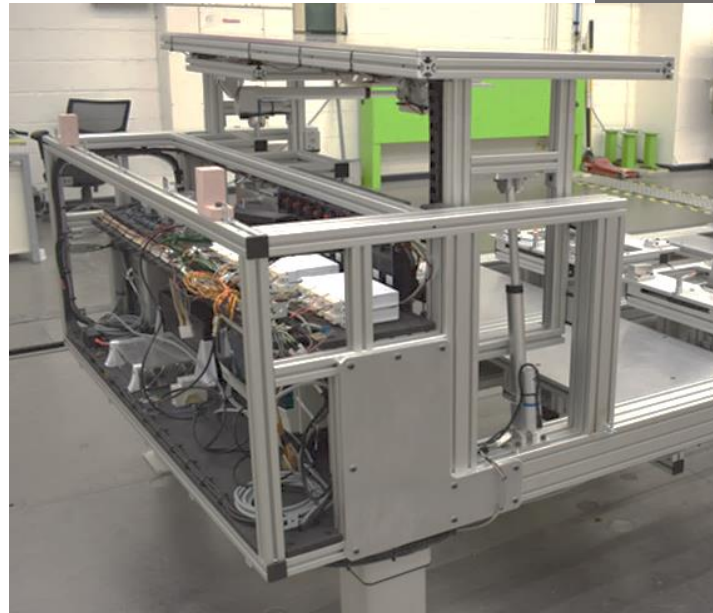


- Bespoke one-off and production volume facilities
- Paint systems - BASF/RM/AkzoNobel
- Certified inspection and quality processes
- Production panels, body surfacing, show properties, finishes and interior paint
- Paint Development and bespoke finishes, painters are system trained
- Vision models, clay paint, show paint, surfacing and shaping, spray chrome, textured paint and special effects



# Electronics Overview

- Electromechanical Control
- PCB Design and Fabrication
- Electronic Control Systems
- Classic and Bespoke Conversions
- Door Systems
- Seating Systems
- Lighting Exterior & Interior
- Electric Vehicle Systems
- Research & Development
- Show Vehicles
- UX Development
- Consultations





## Trim Studio

Few companies have in-house trim studio competence and capability. Envisage offer a full trim service and can meet all client project requirements from within.

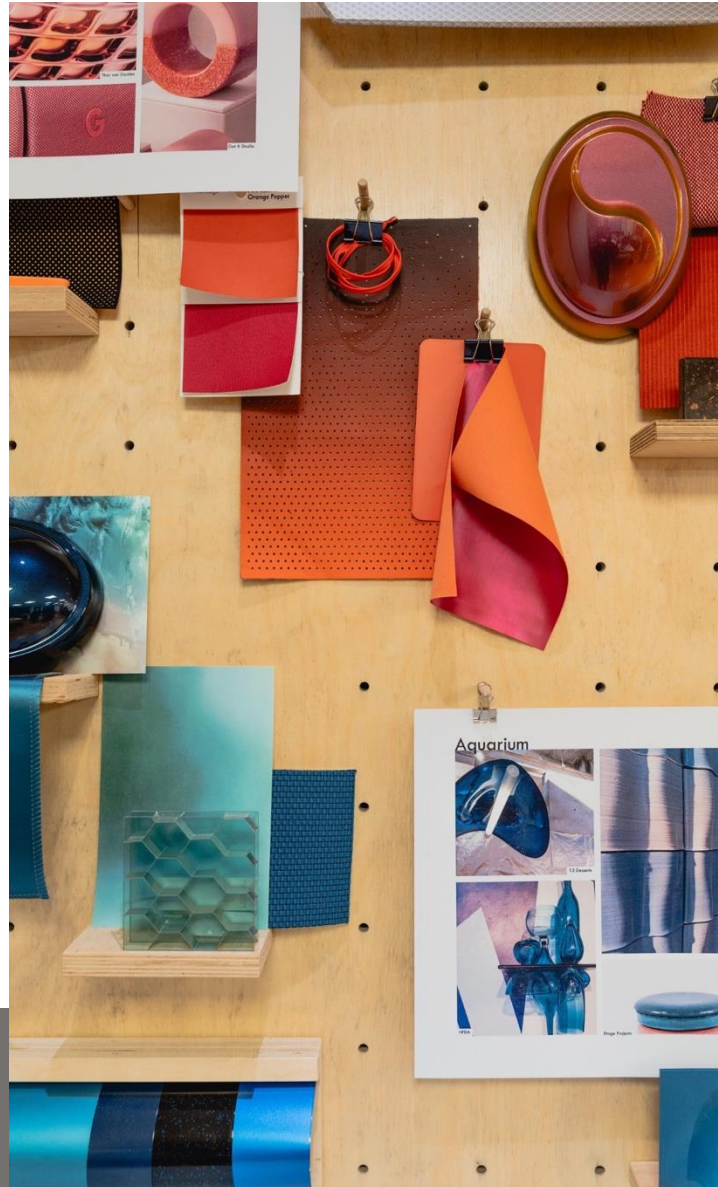
Our trimmers have over 85 years combined experience, bringing specialist expertise in support of clients from all sectors.

- Trim support for clients, with Design and Engineering focus
- Support for soft trim, foam and scrim development
- Capability in thread, quilting, fluting, perforation and piping
- Material sourcing and sampling
- Hand and machine stitch exploration
- Computer Embroidery
- One off and small Series production



# Colour, Materials & Finish Design

- Creation of interior moods through careful selection of colours, materials and finishes
- Concept sketches & visualisations
- Comprehensive Materials Library enhanced with new and innovative materials
- Publishing Trend Insights
- Tailored Trend Reports for clients
- CMF research



25 Studios in Coventry, UK,

# Studio Space

- Short/long-term rental
- All studios are networked with secure swipe card access

## Design & Engineering

- Plates up to 14m
- Clay machining and measurement
- CMF Studio
- Bespoke Customer Offices



## Manufacturing

- Multi-axis machining
- Sheet metal forming
- Low volume pressing techniques
- Panel, BIW, interior & exterior assembly
- Paint booths



- Trim shop
- Show Vehicle, Prototype and low volume build
- CMF Laboratory
- Additive Manufacturing

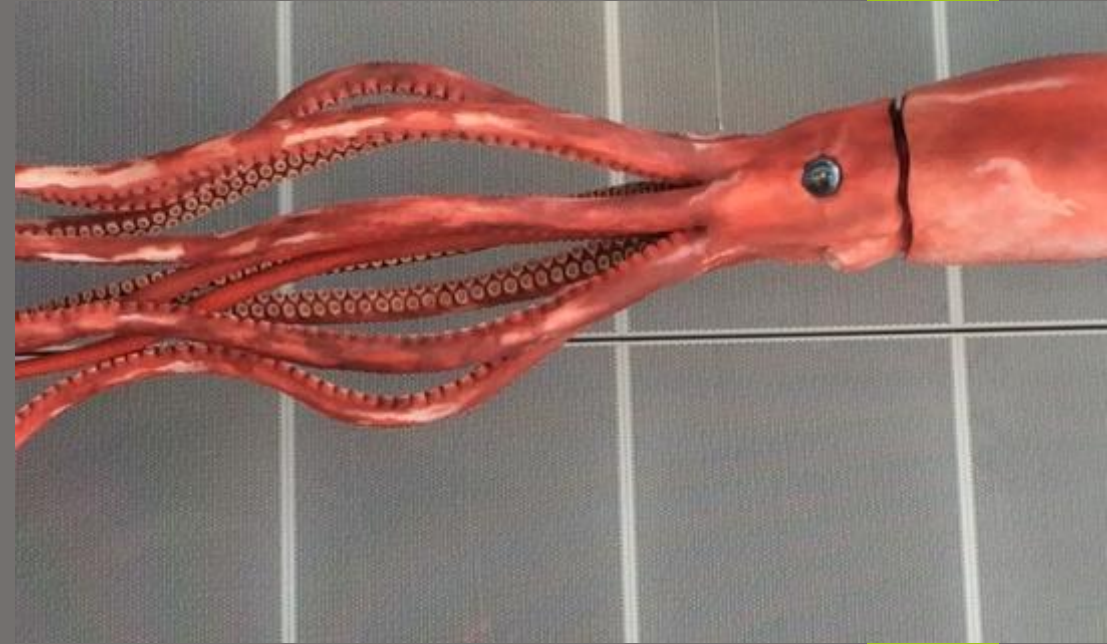


# Virgin Atlantic – Upper Class Suite & Sky Bar

Full size mock-up section of a fuselage engineered & manufactured to represent new Upper Class Suite.

- 15 rows of seat configurations with a bed, reclined, and upright positioned models
- Seats were manufactured, trimmed, and installed
- Finishes and electronics installed to create a real flying experience





## Crawley Creatures – Marine Animals

- Life size models of marine animals
- Sharks, a saltwater crocodile, a giant squid and a 5m manta ray were manufactured
- (CNC) machined from a lightweight foam
- The data of the animals was broken down to make machinable pieces
- Pieces were assembled
- Sent back to Crawley Creatures, to make the animals look realistic with paint, glass eyes, and teeth



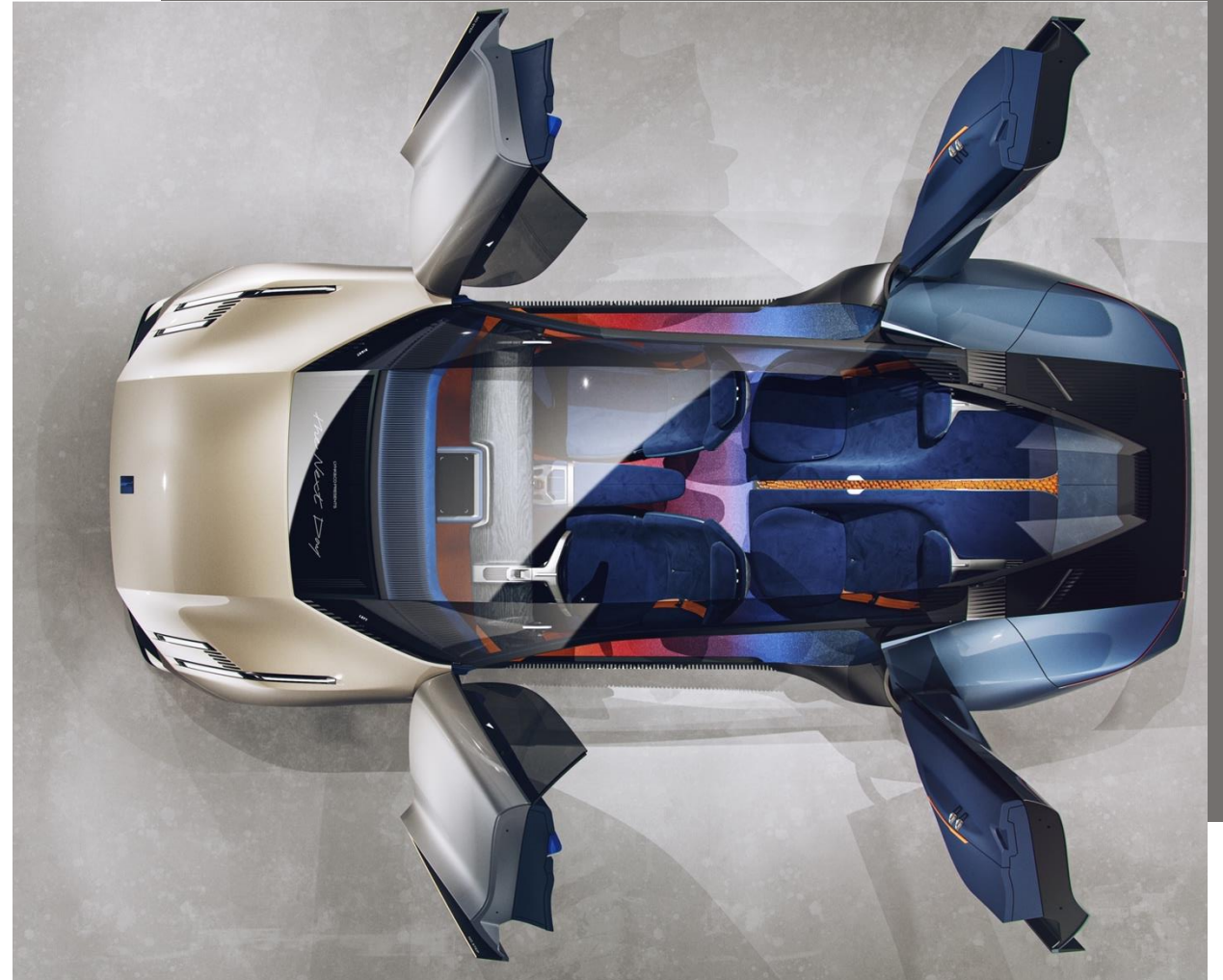
# Model 01 : The Couch

- Precision metal workers manufactured the rear fenders from flat aluminium rolled together with the seat back, the rear balance, and metal finished wings
- Our (CMF) designers selected high-end Scabal fabric and saddle leather
- Trim Studio made and trimmed the seat
- Paint Development prepared and added a satin finish paint
- Electronics added lights to complete the effect



# Lynk & Co – The Next Day

- 'The Next Day' concept car working with design team to turn their vision into a physical showcase
- Hand-woven Swedish carpet, transitioning from dark to light tones
- A dashboard formed from recycled denim and deployable infotainment
- Showcased in China and a 2nd property at HQ in Gothenburg





# NAWA Technologies

NAWA Technologies, wanted to showcase a vision for a future electric powertrain, debuted in a stunning electric motorbike inspired by 1960 Café Racers.

- Initial design proposals from which the final design was perfected
- Took NAWA Racer through the entire concept phase
- Provided sketches and renders



# 7X Design - Rayo

- Manufactured panels and carbon fibre components
- Assembled vehicle to sub-millimetre accuracy

Lift was experienced at high-speed additional downforce was required.

- Forged carbon canards constructed.
- New forged carbon deck lid with larger winglets
- 125 kgs per side of downforce added
- Painting, lacquer and gloss to the canards and winglets







## Mk1 Ford Transit Van - eBay

- Design, restore, and convert van promotion of eBay's selling platform for new and used parts and accessories
- Front swivel seats were added, and removable chairs were manufactured
- Gas hob, sink, electrical outputs, coffee machine, fridge and its own power source
- Conversion from LHD to RHD
- New panels, repaired damaged rear valance and rust patches on the floor
- Creating extra headroom by installing a VW T5 pop-up roof kit – installing bespoke panels for it to fit

# Recruitment

- With a focus on design, engineering, manufacturing, supply chain & logistics and Technology
- Bespoke solutions tailored to suit your business needs
- Attract and place the right candidates at every level to executive level appointments
- High calibre candidates for both contract and permanent roles
- With extensive recruitment experience securing multiple disciplines across a variety of industries including transportation & future mobility, automotive and aerospace
- In-depth candidate screening & selection process including qualifications, performance and referencing





Please contact Us

# Thanks

**Contact :**

Paul Jackson-Business Development



**Telephone :**

Mobile: +44 (0)7353 096576

Main: +44 (0)24 7644 2777



**Address :**

Unit 1, Doyle Drive, Coventry, CV6 6NW



**Email :**

[pjackman@envisagegrouppltd.com](mailto:pjackman@envisagegrouppltd.com)

