

Integrated solutions

Steve Welch spoke to **MSL's Andrew Tagg** about their Measurement and scanning services for the motorsport sector

Andrew Tagg



Andrew Tagg is Managing Director at MSL

Steve Welch: Could you tell me a little about your background in the sector?

Andrew Tagg: Whilst not directly employed by a Motorsport Team, MSL has been supplying F1 and Motorsport Teams with Measurement and Scanning Services and equipment since 1998.

SW: Could you provide a summary of your organisation and offering to the market?

AT: MSL offers a wide variety of specialist products to aid a multitude of Design, Manufacture and Inspection applications relating to Motorsport.

From a design perspective, our nTopology software offering enables us to engage directly with CAD OEM's, Additive OEM's and design teams looking to optimise their design process, by introducing generative capabilities to overcome the complexities of advanced additive manufacturing, considering, light weighting, field driven data design and complex lattice material structures.

Our Creaform measurement and scanning products can then be

utilised to perform dimensional and surface profile checks back to the Designer intended CAD model. An example of this would be composite tub or 60% scale model wind tunnel and model dimensional preparation prior to entering a 'wind on' test. Our Strategic level partnership with Creaform means we can cover a vast spectrum of design and manufacturing applications, with their handheld scanners tactile probing, and photogrammetry solutions, the HandySCAN3D, Go!Scan3D MetraSCAN3D and MaxSHOT3D, providing point cloud data capture for 3D printing, reverse engineering and quality control.

Virtek Vision International are our most recent strategic partner and this fits perfectly within the manufacturing process. Adding the Iris 3D to our solution offering, means we can now also support the production and build processes for composite lay-up, fabrication, and guided assembly, projecting laser templates exponentially faster with innovative vision technology with laser projection in one system.

SW: Who in the main are the

companies you engage with and in what way?

AT: MSL has rapidly become one of the most trusted UK partners for end-to-end Design, Manufacture and Inspection solutions and is renowned for providing products and services to some of the UK's leading F1, automotive, aerospace, manufacturing, and educational organisations.

We provide solutions with best-in-class post-sales support and our customer centric approach allows us to further develop our existing client relationships and increase our implementations across their end-to-end manufacturing process.

We believe that success is achieved with the full adoption of our solutions, and it is our experience that defines our solution focused approach for our 400+ customers across the UK.

SW: Do you have a project or case study you could provide some details of?

AT: M-Sport design, engineer, and manufacture motorsport vehicles at the highest level of the industry. They utilise Creaform Scanning technology for verifying compliance and reducing build tolerances to a minimum.



In addition to competing in the World Rally Championship, M-Sport also operate race programs for tier 1 automotive manufactures. Their partnership with Ford allowed the company to provide invaluable engineering expertise to a group of award-winning Ford rally cars.

Adopting 3D scanning technology into M-Sport has enabled the company to continue to produce cars that are compliant with FIA regulations whilst maintaining the maximum technical advantage by minimising design and manufacturing tolerances where it is advantageous. MSL have been a great partner in selecting the most suitable scanning equipment and providing a training program and support to suit their bespoke requirements.

SW: What do you see as the key trends in the sector?

AT: Further utilisation of a 'Measurement Room' approach, combining camera systems to measure complete chassis and wind tunnel models, without compromising on time and accuracy whilst performing measurement system device moves to eliminate line of sight issues that can be associated with historical portable measurement and scanning devices.

Traditional Metrology calls for everything to be fixed in an environment where nothing can be moved. The concept behind the 'Measurement Room', combining the Creaform C-Track and MetraSCAN Black is that it provides speed and



M-Sport
Go!SCAN3D

accuracy in a versatile environment.

Working together they ensure very high efficiency and convenient usability in operations such as quality control, dimensional inspection, and reverse engineering in the manufacturing industry.

The Measurement Room is being used in Formula One and the Automotive/Motor Sport world, we can bring a car into the measurement environment and can measure it with complete flexibility, without the need to worry about anything moving or changing.

Formula One is a high driven, fast paced environment and we need to be able to move a vehicle in and out of the measurement area quickly and efficiently, with the Measurement Room set up we can do this.

On the manufacturing side, the future certainly lies in Additive. We've seen AM machines and materials taking enormous strides forward in recent times with the technology being adopted not only in F1, but aerospace, medical and industrial

applications. This leads to engineers searching for tools that can optimize these processes and really take advantage of all that AM can offer, and that's where nTopology fits in. The software can perform complex operations to optimize geometry, lattice density and wall thicknesses, based maths and data. The ability to create generative designs from real word data and CFD analysis is a real game changer in the motorsport sector. We can now ensure that we're only using material that absolutely needs to be there, which has massive performance, financial and environmental benefits.

SW: What are your objectives looking ahead to 2023 and beyond?

AT: With our expanded portfolio now including nTopology and Virtek, MSL can now offer complete end-to-end Design, Manufacture, and Inspection solutions.

With this range of product's we can offer multiple end-to-end solutions bespoke to our customers requirements in 2023 and beyond. We also see a huge potential in reverse engineering, where we can provide scanning technology to capture the geometry of an existing part, nTopology to optimise the design before manufacture, and metrology software to fully inspect the final part a true end-to-end solution for Design Manufacture and Inspection requirements.

Measurement room



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