An Interview With: Sanders Sails

Tradition Refined by Technology: The Sanders Sails XOD Development Story

Chris Sanders
Sailmaker and Director of Sanders Sails

SMAR Azure Ltd

SMAR Azure develops innovative software solutions for the marine industry, working as technological partners to meet the needs and requirements of the industry

Can you tell us who Sanders Sails is and how the company has evolved over the years?

Sanders Sails is a multi award winning sail and cover loft based in Lymington, with over fifty years of British craftsmanship and innovation. Since 1974, we have built a strong reputation for producing high quality cruising, racing, classic, and one design sails, all designed and manufactured in house.

Our sails compete — and win — across the UK, Europe, and beyond. From club racing to offshore campaigns, our design philosophy focuses on precision, consistency, and efficiency on the water.

Our Design team of Peter Sanders, Harry Ellens and myself combines extensive sailing experience with deep technical expertise. By blending advanced digital tools with decades of hands on sailmaking, we ensure every Sanders sail — from family cruisers to championship one designs — delivers exceptional performance and reflects the heritage of our loft.

Can you share the story behind this sail design and the project it was created for?

One of our most significant ongoing design projects is the X One Design (XOD) class — one of the UK's most historic and competitive one design fleets. First launched in 1911, the XOD remains a cornerstone of Solent and Poole Bay sailing, with active divisions across Lymington, Yarmouth, Cowes, Hamble, Itchenor, and Parkstone. Its heritage and consistently high level of competition make it a key class for Sanders Sails, where we have played a leading role for more than forty years.

Our involvement with the fleet runs deep. Sanders Sails has secured numerous high profile victories, including Lymington XOD Week, Cowes Classics Week, and divisional trophies throughout the Solent and Poole Bay. The class demands precision and continual refinement — small gains often decide results in a fleet where finishes are separated by seconds.

To stay ahead, continual development is essential. As the racing season ends in October, I move straight into on the water testing, working with leading sailors to trial new sail shapes, battens, cloth combinations, and detailing. These real world insights, combined with SMAR Azure design tools and decades of class knowledge, shape the following season's development.

This process ensures every evolution of our XOD sail wardrobe is backed by rigorous testing, solid data, and direct collaboration with top sailors. The result is a proven, championship winning product — continuously refined, fleet tested, and built on a long standing commitment to excellence within one of the UK's most iconic keelboat classes.

How did you begin the design process and prepare for this project?

As with all our design projects, we begin by carrying out full rig and hull measurements, gathering detailed information before any computer modelling takes place. Understanding the structural behaviour of the rig is essential, so we focus closely on pre bend, mast bend characteristics, sheeting geometry, lead positions, and the balance between the centre of effort and the required helm feel.

With more than forty years of involvement in the XOD class — and as active sailors within the fleet — we have a deep understanding of the subtle variations between boats. Every wooden XOD has its own quirks in hull shape, mast stiffness, and deck layout, so new sail designs must perform consistently across this range. This familiarity allows us to design with accuracy and sensitivity.

On the water testing is a crucial part of our preparation. Real sailing conditions give us an instinctive feel for power, trim ranges, and achievable angles, directly informing decisions on draft placement, luff curve, leech twist, and panel shaping. Once measurements are complete, we build a 3D model of the hull and rig within our design software, ensuring the digital environment mirrors the physical boat. From there, we refine the sail shapes with confidence, supported by accurate data, real world experience, and a detailed understanding of how the boat behaves under sail.

What objectives were you working toward when you began this project?

Before beginning any new design, it is essential to define the objective clearly. The XOD class has changed significantly over the past decade, and our design approach needed to reflect the fleet's modernised rig dynamics.

Ten years ago, most boats encouraged mast bend — with slotted mast tracks, slack jumpers, loose cap shrouds, and wire luffed jibs carrying the forestay load. This created a very different force profile and required sails with specific characteristics.

Today, the fleet looks completely different. Many owners now use high end spars with carbon inserts and stiffer sections that minimise lateral bend. Soft luff jibs, hanked directly to the forestay, have replaced wire jibs across more than 95% of the fleet. Forestay tension is higher, cap shrouds are tight, and jumpers and rams are adjusted on 24:1 systems, producing far greater and more stable rig loads.

This evolution required a fresh design philosophy. For the new season, we set out to build a sail wardrobe engineered specifically for this higher load environment, focusing on:
- Maintaining shape and stability under increased rig tension
- Optimising the aerodynamic profile for stiffer rigs
- Re balancing draft, luff curve, and twist for soft luff jibs
- Ensuring compatibility across wooden
- Creating powerful, flexible shapes that reward accurate tuning

The class's approval of a new spinnaker size added further opportunity, allowing us to redefine downwind performance and gain an early competitive edge. In short, our aim was to fully embrace the fleet's technological progression — using modern materials, updated rig behaviour, and advanced design tools to deliver our most refined and competitive XOD sail wardrobe to date.
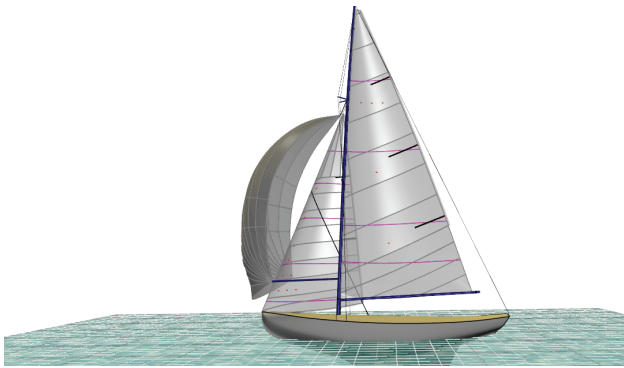

How did the software's features support your design work on this project?

One of SMAR Azure's greatest strengths is the quality and flexibility of its hull and rig input tools, which allow us to build an exceptionally accurate digital foundation before any sail shaping begins. By modelling rig geometry, mast characteristics, bend behaviour, and sheeting systems in detail, we can design sails that match each boat's structural realities with precision.

We recently invested in the Analysis Module, which has already become an invaluable part of our workflow. With Francesco's guidance, we can now evaluate sail performance in a realistic aerodynamic environment before committing to a physical build. This provides deeper insight into drive generation, twist behaviour, pressure distribution, and shape stability, enabling us to refine designs long before they reach the cutting floor.

Another major advancement is the Project based structure. Instead of producing isolated designs, we can now create complete digital environments for
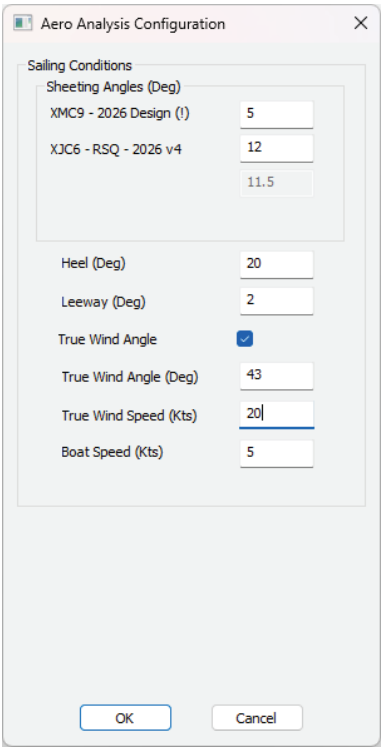
larger clients — including hull models, rig libraries, and historical sail iterations. This allows us to:

- Develop full sail wardrobes over multiple seasons
- Track design evolution and compare shapes across years
- Validate performance by switching between photography and digital models
- Maintain consistency when updating or expanding a client's inventory

By integrating long term data with advanced analysis tools, SMAR Azure has strengthened both our design process and our communication with clients. It has become a bridge between practical on the water experience and high level computational design, and is now central to how we create and refine modern sail solutions.

How did the support team assist you during the design process?

The support team at SMAR Azure has been exceptional. We work closely with Francesco, whose deep knowledge of both the software and sail design methodology is invaluable. With multiple ways to reach the same design outcome, he consistently helps us identify the most efficient and effective approach, ensuring we get the full benefit of the platform.

We also rely on the team for assistance in building highly accurate hull models. Because precise geometry is essential to performance, their expert guidance gives us complete confidence in our design foundations. What stands out most is their responsiveness — every query is met with prompt, detailed support, often within 24 hours. This level of engagement makes a noticeable difference to our workflow, and we are genuinely grateful for the team's continued expertise and commitment.

How did you first learn about SMAR Azure and what drew your attention to it?

Our relationship with SMAR Azure goes back more than a decade. After catching up with Francesco and Donald at the METS Trade Show 2025, we were reminded that Sanders Sails has been an active user of the software since 2011.

At the time, we were hearing excellent feedback about how advanced — yet remarkably user friendly — the platform was. Its clear, intuitive graphical interface stood out, allowing designers to visualise complex concepts quickly and accurately. In 2011, Harry Ellens and myself visited the headquarters in Scotland and were impressed by the ambition and technical capability of what was then a young, dynamic development team. Their passion aligned closely with our own commitment to continuous improvement and innovation.

Since then, the software has continued to evolve at pace. Its growing capability, combined with exceptional user support, has made SMAR Azure an invaluable part of our design process. It has been a pleasure to watch the platform develop into one of the most powerful and designer centric tools in the industry.

Is there anything else you'd like to share that we haven't touched on?

SMAR Azure has played a key role in strengthening our position as one of the UK's leading sailmakers. Its powerful design tools, accurate modelling, and exceptional technical support have helped us refine our development process and deliver consistently high performing sails across every sector we serve. Our collaboration with the SMAR team has been invaluable, and we are genuinely grateful for the partnership. We look forward to continuing this journey as we push the boundaries of modern sail design.

For more information

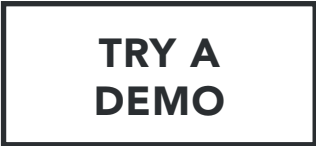**Chris Sanders**
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