CJR FABRICATION
CJR PROPULSION

MOMENTUM

NEWS FROM CJR PROPULSION

ISSUE 11 Autumn 2017 www.cjrprop.com

CJR delivers

for French specialist Chantier Naval Couach

Powering a Porsche

Optimising performance with CNC-machined CJR propellers

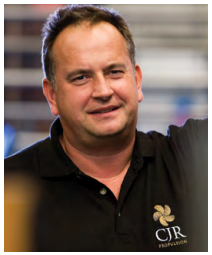
Driven by technology

Progress of CJR's 10-year strategy

Seeing double

Partnering with Tor Marine for twin pilot boat deliveries

Introduction from Mark Russell, CJR MD



Another year has rolled by and CJR continues to progress its plans for growth and to be the industry's undisputed technical experts.

In this edition of Momentum, we run through a few recent projects and updates, including expanding our agent network with the addition of Tides Marine in Spain, a recent project to design and produce a complete propulsion and sterngear package for two 27m pilot boats and the advantages potentially on offer when you switch from poorly performing jets to a traditional shaft drive setup.

I also talk about the road we've been on the last eight years, investing in new technology and updating our processes from end to end to create an unrivaled, technology-led design and manufacturing operation.

On the CJR Fabrication side of the business, things are going from strength-to-strength, with new ISO approvals, orders coming in from around the world and a broadening of the markets in which we are involved. A number of highly complex architectural projects for superyachts and prestigious London homes have tested our resolve at times but are ultimately the result of our CAD-based design approach and adherence to the very highest levels of quality.

So, I hope you enjoy the latest edition of Momentum. We also highlight a number of key projects that we have completed recently and touch on what's next for our business.

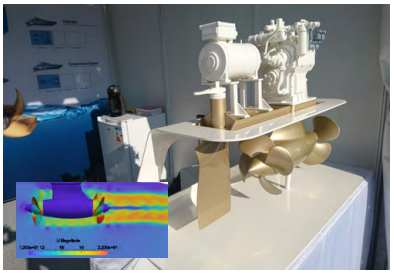
Many thanks

Mark Russell

MORE PROJECTS, MORE COMPLEXITY...

More satisfied customers

Every year, the projects CJR is asked to work on grows in terms of both physical numbers and complexity. The last 12 months has been no exception, with a broad range of challenging requirements needing to be met across the recreational, commercial and superyacht sectors. Belinda Russell, Director at CJR Propulsion, explains why it matters: "As a result of our growing reputation, we are increasingly the go-to provider for highly-complex projects, especially anything that requires CFD analysis. We have worked tirelessly to develop this positioning and we're delighted our ambitious plan to redefine how propulsion systems are designed and manufactured is being so warmly received.



"You only have to look at our recent projects, covering everything from submarines to large ferries, to see that CJR is a step ahead of our competition and we are determined to stay in front."

→ CJR projects from the past 12 months

- 500 pairs of propellers for production motoryacht builders in the UK, Italy, Middle East, Poland, Australia, and France
- 500 complete shaftlines/brackets and rudders to production motoryacht builders
- 100+ 3D printed patterns
- 50 complete shaftlines and propellers for superyachts
- 50 complete sterngear packages to pilot and patrol boats
- 25 complete sterngear packages to fast ferries
- 12 propellers for contra-rotating pod drive systems
- 10 Lateral Vibration Analyses
- 10 Computation Fluid Dynamics Studies
- 6 submarine propellers
- And... one six-blade propeller for a hydrofoil

Powering a Porsche

Dynamiq has recently launched its latest project, the Studio F.A. Porsche-designed Dynamiq GTT 115.

The luxury, 35-metre superyacht features a hybrid power plant, REINTJES' FORTJES 5000 pod system, and a complete set of CFD-optimised, CNC-machined CJR propellers for optimum performance and minimised noise and vibration.

The launch, which took place in Viareggio, Italy, heard Dynamiq CEO, Sergei Dobroserdov, describe the GTT 115 as "the culmination of a long process of design and development to introduce a new kind of superyacht to the market." He wasn't exaggerating either. The GTT 115 has the unique honour of being the first superyacht designed – both inside and out – by Studio F.A. Porsche, with the objective of "taking the spirit of high-performance sports car styling to the high seas," according to Roland Heiler, CEO of Studio F.A. Porsche.

> Taking the spirit of high-performance sports car styling to the high sea.

However, this isn't a case of style over substance. The all-aluminium yacht is built to RINA classification and is MCA compliant, with her naval architecture provided by respected Dutch studio, Vripack. Power is delivered by a pair of 1,650hp MAN V12 diesel engines, twinned to FORTJES 5000 pod drives and three variable-speed generators for a top speed of 21 knots and a maximum range of 3,400 nautical miles.

The FORTJES 5000 pod drives are designed for performance but also offer greater efficiency than any system using conventional shafts and propellers. Their positioning, situated outside the hull, also means reduced noise and vibration, as well as lower emissions. In the case of the GTT 115, the pods use contra-rotating CJR-designed propellers linked via a compact gearbox to the main engines - reducing engine room space requirements by nearly 18%, which means more accommodation space for the owners and their guests.

→ The spec

Length:	35m
Top speed:	21kts
Cruise speed:	19kts
Range:	3,400nm
Beam:	7.1m
Guests:	6
Guest cabin:	3
Crew:	6
Builder:	Dynamiq
Naval architect:	Vripack
Exterior designer:	Studio F.A. Porsche
Interior designer:	Studio F.A. Porsche
Yacht type:	Displacement
Propellers:	CJR

"This is precisely the type of project we are becoming known for," commented Mark Russell, CJR managing director. "Our investment in some of the industry's most advanced CFD analysis software means that we are uniquely positioned to maximise the benefits of this type of drive system.

"The complexities of contra-rotating propellers means finding the optimal position for the props is vital, and you simply can't do that without the use of computational fluid dynamics and the experience required to act on the results. For this project alone, we tested 30 different iterative designs to ensure maximum performance and efficiency, with high-manoeuvrability at low speeds and improved stability at high speeds. We can do this faster and more cost-effectively than anyone else in the market, thanks to our highly-specialist team and in-house super-computer," Russell added.

In addition to the fully optimised propulsion system, the GTT 115 features a vertical prow and an exclusive electric stabilisation system, which uses four cutting-edge electric stabilisers and four interceptors and, as a result, reduces roll by up to 85% while enhancing stability and course keeping. At anchor, four fins with a large total area reduce roll by up to 60%. Plus, with no hydraulic systems running through the yacht, there is no risk of interior damage following a hydraulic system failure.

Other key features include a spa pool on the upper deck, which is situated just forward of the shaded al fresco dining area. Guest accommodation is all below deck with a configuration choice of three or four cabins, as well as a spacious light-filled saloon. The Porsche-influenced touches continue throughout the vessel and even include Pepita dogtooth deck cushions, similar to those found in the latest Porsche 911 R edition sports car.

Our investment in some of the industry's most advanced CFD analysis software means that we are uniquely positioned to maximise the benefits of this type of drive system.

More than manufacture

CJR's in-house capabilities today extend beyond the design and manufacture of precision propulsion systems. Its knowledge and experience in assisting customers through the classification process adds yet another dimension to its offering.

This assertion is supported by CJR's approval and extensive experience working with all six of the marine industry's biggest classification societies.

During a recent project with Goodchild Marine, CJR was commissioned to design and manufacture a complete propulsion and sterngear package for a SB LYNX 16-metre passenger catamaran. The vessel was designed to provide fast, efficient, low-draught heavy cargo carrying capabilities, combined with excellent sea-keeping and needed to comply with MCA Small Seagoing Passenger Ships Code.

Through its experience on similar projects, in addition to designing efficient props and sterngear, CJR was able to support Goodchild in obtaining Bureau Veritas classification for the SB LYNX's propulsion package, as Ian Palmer, project manager for Goodchild explains:

"We know with CJR that the finished product we receive will be high quality and designed using the latest technology and software available. But, what we also appreciate is its commitment to defined processes and documentation, which makes obtaining classification a much simpler process. For this project, being a passenger ferry, classification is even more important and delays cost more than just time, making CJR's knowledge even more pertinent.

"Throughout the design and build phases, CJR was on hand to offer support regarding classification and we found the team to be very knowledgeable and a pleasure to work with."

CJR PARTNERS WITH TIDES MARINE SPAIN:
Bringing products to Mallorca

Following the finalisation of contractual agreements, CJR Propulsion has announced that Tides Marine Spain has been appointed as a CJR agent for mainland Spain and the Balearics.

Tides Marine Spain is a leading distributor of Tides Marine products, offering a wide range of shaft seals, rudder seals and bearings. Tides Marine Spain also distributes products for other select manufacturers, and offers a complete range of technical solutions to original equipment manufacturers (OEMs).

Under the terms of the new agreement, Tides Marine Spain will be responsible for increasing awareness of the British firm's latest developments in propulsion design and manufacture, whilst driving sales of the latest CJR products across Spain from its sales office in Mallorca.

Both CJR and Tides Marine Spain have established enviable reputations for the development and distribution of high quality marine equipment. The signing of the agreement means both parties can look forward to expanding CJR's market presence in the region, as Mark Russell, Managing Director for CJR Propulsion, explains, "We are delighted to be working with Tides Marine Spain and offering its customers the opportunity to benefit from our precision approach to design and manufacture. Tides Marine Spain's team share our commitment to delivering the highest standards at every stage of the process, so we look forward to growing our collaborative relationship in the years to come."

Paul Hamill, Managing Director for Tides Marine Spain commented: "From our location in the heart of Palma's marine industry, we'll be able to offer the best technical advice and competitive quotations for CJR's exceptional propellers, and stern gear to motor yacht and super yacht owners across Spain. We work hand in hand with our customers to understand their requirements and exceed their expectations with the best available solutions. CJR's investment in the latest design and production technology means it is an exciting organisation to work with and one we know our customers will benefit from."

For more information or to book a consultation with Tide Marine's customer team: spain@tidesmarine.com

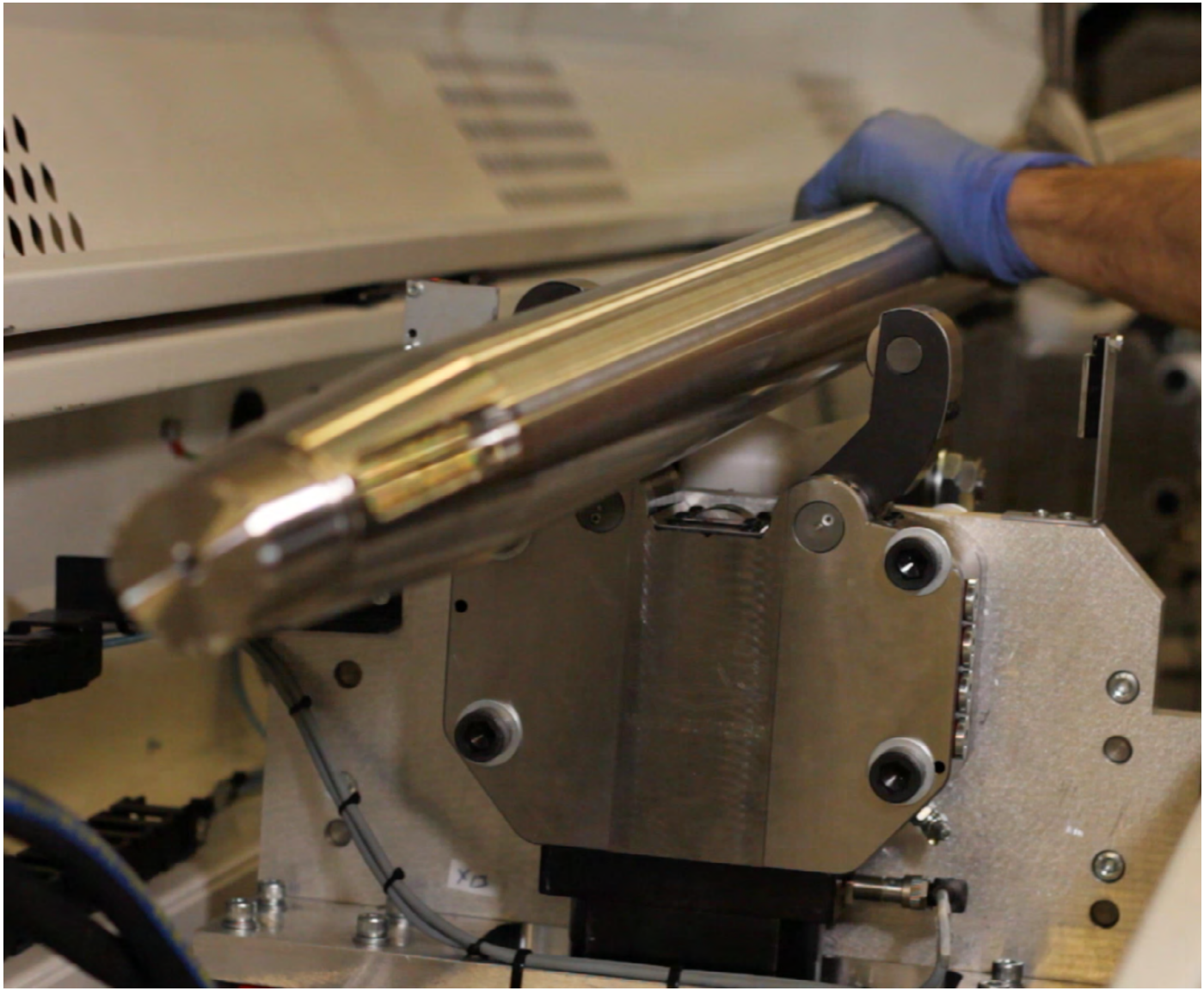
CJR Fabrication secures ISO 9001:2015

CJR Fabrication (CJR Fab) is delighted to announce its recent achievement – completing the transition from ISO 9001:2008 to the new improved directive ISO 9001:2015, achieved through LRQA (Lloyds Register Quality Assurance).

ISO 9001:2015 certification promotes the development of continual improvement, customer satisfaction, traceability and international best practices within CJR Fabrication – helping the business provide the highest quality, bespoke products in various metals and finishes.

The ISO certification means CJR's clients can have increased confidence in its products and the service it provides, as CJR Fab's General Manager, Michelle Davies, describes:

"We're delighted to have managed the business through transition from the old standard ISO9001:2008 to the new ISO 9001:2015. It reaffirms the business commitment to the management of the quality systems and the assessment of potential business risks and opportunities in a forever changing environment. The new directive focuses on top level leadership and enhancing our customers' experience. This is a great result for our customers as it is independent proof of our commitment to delivering unrivalled, world-class products and customer service."



Driven by technology

CJR's managing director, Mark Russell, discusses how CJR's ten-year strategy is progressing and the difference its investments have already made.

If you'd asked me eight years ago to predict where CJR would be in 2017, my response wouldn't have come close to encapsulating the journey the business has been through. Back then, in 2009, the world was still very much in the throes of a global recession and, after several years of growth, the marine industry was starting to contract. Orders were being cancelled or postponed, yards were disappearing and prices were being driven down. We knew we had a quality product but we needed to create a bigger point of difference between ourselves and our competitors if we were to prosper.

It was around this time that we made the decision to reposition the business – to put a metaphorical stake in the ground and say: 'CJR Propulsion will be the world's most technologically advanced propulsion specialist'. We will be the experts, dedicated to offering advanced design and manufacturing capabilities, and backed by technical understanding and detailed analysis, not simply experience and a 'good eye'. We wanted to be unrivalled in the marketplace. It was an easy thing to say but a much harder idea to truly accomplish.

Not long after this realisation, and full of optimism for CJR's future, we met with the University of Southampton's Fluid Structure Interactions Research Department to discuss how we could form a partnership to utilise Computational Fluid Dynamics (CFD) in our design and manufacturing process.

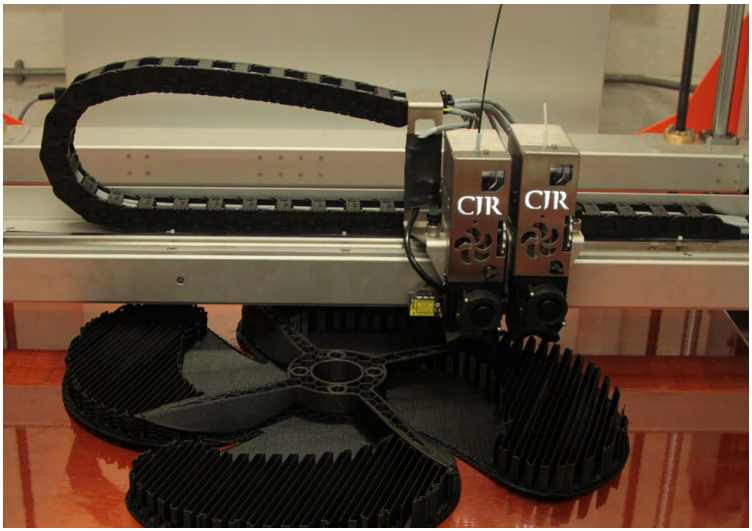
The basic premise of CFD involves using numerical methods and algorithms to perform the complex calculations required to simulate and understand the interactions between a vessel's hull, its appendages and the water. But those calculations involve literally millions of equations and it's not something you can do half-heartedly. Our entry into CFD was certainly no half measure. Within 12 months we had a dedicated, in-house CFD department, with a super computer developed and built in-house, and our own bespoke software to enable us to analyse and solve challenges relating to fluid flows. Today, CFD is central to our business, enabling us to predict the non-uniform flow into the propeller plane. Without this, it is impossible to design and optimise the propeller accurately. We have carved a reputation as one of the best in the world through our understanding and experience in CFD, and CJR is the only propulsion business to offer such services to its customers in-house.

Following the success of our CFD activity, we reviewed every stage of our design and manufacturing process in order to understand where the latest technology could make a positive difference. Several large investments followed, including a robotic finishing tool, which remains the only one in the UK, and a bespoke 'five-axis' CNC machining centre that makes light work of producing multiple

parts in a single set-up. Collectively, these investments – and the trained personnel who operate them – radically improved the performance of our propellers and removed much of the manual finishing requirement, which had been the standard industry approach for over 100 years.

For our customers, these pieces of equipment ensure 100 per cent adherence to the original design, with total repeatability for production vessels. Combined with CFD and you know you have a propulsion set up that has been designed specifically for the vessel in question, using its real hull form to identify the optimal appendage position and to maximise speed, efficiency and longevity, whilst reducing or removing vibration and cavitation.

Next on our list of objectives was finding a way to demonstrate, with certainty, the difference our evidenced-based approach was making on the water. To achieve this, we needed a portable data acquisition system, which allowed stats to be collected, even in rough sea conditions. Existing marine technology relied on on-board instruments but that didn't tell the whole story and didn't give us the detail we wanted. As a result, we decided to take a different approach and turned to the technology used to gather flight data from unmanned aerial vehicles (UAVs). Another first for the marine industry.



Over a six-month period, we have continued development of the TrialsApp system, using complex algorithms to combine the information it gathers and to provide accurate trim, roll and heading data. The system also allows on-board vibration levels to be measured at a frequency of 500Hz, with data acquired 50 times a second, so it is incredibly accurate. It's another great example of CJR doing more to add value for our business partners and global customer base and it is now one of our popular services, and several OEMs have bought their own version for day-to-day use. The system is currently in use in the UK, Turkey, Slovenia, Italy and Australia.

Since then, we have added a number of smaller but no less important technology-based tools to our arsenal. The latest portable 3D scanners have made a massive difference in gaining visibility of a hull form on an older vessel where plans are not available. We can travel around the world to take accurate measurements in minutes, straight from the dockside. It also ensures we consider any appendages or modifications that might not appear on the original designs. We can then load the results into our CFD software so the resulting propulsion system is truly accurate and optimised to the real hull form, not a standard design.

To connect every stage of the design, manufacture and installation process, we have also invested in the latest prototyping tools, including a number of 3D printers that enable us to rapidly and accurately fabricate all new designs direct from our CAD software, in just a few hours.

However, a perfect propulsion design still falls down if its installation isn't properly managed so, with that in mind, we have also developed bespoke laser alignment and lateral vibration and shaft alignment analysis tools, which completes our end-to-end solution.

In our business, accurate propeller shaft alignment is essential to prevent vibration along the shaft and into the engine. Any vibration not only reduces engine efficiency but will, over time, cause engine or gearbox damage and, if left unattended, will eventually cause premature failure.

Due to the long length of propeller shafts – especially on larger superyachts and commercial vessels – manual measurement is difficult, time-consuming and potentially inaccurate. Our bespoke laser alignment tool uses viewing plugs and target plates, so each component can be independently adjusted to ensure precise line of sight is achieved. The tool even calculates the appropriate sag value, using our shaft alignment software, to provide incredibly accurate results and the smoothest ride, with minimal vibration.

Equally, our lateral vibration tool is essential to understanding the natural frequency of the shaft under load from the engine, including the propeller forces. This gives an incredibly accurate understanding of any potentially adverse engine operational speeds, which can then be rectified before the vessel goes back in the water.

So, eight years on from the start of our journey, do we feel like we reached our goal? No, not yet, but I don't think the work will ever be complete. Today, we have a fantastic team – full of talent – and we're constantly looking at how we can utilise new technology to benefit our customers.

Where will be in another ten years? No-one can tell you that for sure but I hope that we will continue to lead, driving the industry forward, making ever-better products that match our changing customers' needs. And, if we can do that, we will be stronger and well-positioned for the next generation.

We have a fantastic team - full of talent – and we're constantly looking at how we can utilise new technology to benefit our customers.

CJR delivers

FOR FRENCH SPECIALIST CHANTIER NAVAL COUACH

Couach celebrated 120 years of operation in 2017. The French motoryacht builder marked the occasion with the completion of two new motor yacht projects, including the fifth unit of its 2300 FLY motor yacht series, which was launched in March with a pair of CJR Propulsion CNC-machined Class S propellers.

The fully bespoke, fast-planing vessel, which has been built for a first-time owner, features CJR's MRKRevolution propellers, zero-speed gyro stabilisers and twin MAN 12V 1400 diesel engines, to produce a displacement of 50 tonnes when fully loaded.

CJR's relationship with Couach began when the Gascony-based yard got in touch to understand the difference CJR's Class S propellers could make to the vessel's performance, as Simon Lewis, Head of Propeller Design for CJR Propulsion explains:

"Our reputation for delivering peak performance means clients come to us with a list of areas where improvements can potentially be made. Sometimes there is a specific issue but, more often, the builder is simply looking to offer the very best product they can – as was the case for this project. The Couach 2300 Fly was already known for its elegant lines and excellent seakeeping but Couach wanted to understand if our technical approach could help increase ride comfort and potentially deliver improved top-end speed. Following our unique design process, the propellers for the 2300 Fly were cast in our foundry and finished using our five-axis CNC machine to produce an end result that matches the CAD design to a very high tolerance. This level of precision throughout the design and manufacture process is key to delivering improved performance, but the effort is not worth anything if we're unable to qualify the improvements we've made with tangible data."

With this in mind, once the propulsion system was installed, CJR performed extensive sea trials using its TrialsApp data acquisition and analysis tool. The TrialsApp system, which was developed in-house, consists of a lightweight, 10" android tablet PC, running bespoke application software that collects data from on-board sensors, as well as a range of wireless sensors, and provides an extensive report covering speed, vibration, noise levels, shaft RPM, trim, and roll. The results from the sea trials were even better than expected, with a one-knot speed increase and notably smoother operation – all attributed to CJR's propellers.

Couach's mechanical systems manager, Rémy Barbedroite, commented on the trial results adding: "One of the most attractive things about the 2300 model is its suitability for owner-operators who want to spend their time aboard in complete privacy, without the need for a crew. Part of that experience is enjoying a smooth ride when you're at the helm – feeling only the speed and excitement. CJR's involvement on the latest 2300 Fly has helped deliver that,

with less residual vibration across the speed envelope, better top-end speed and increased power efficiency – which helps reduce fuel consumption at cruise speeds. Overall, we were very impressed by CJR's professionalism and commitment to getting everything right first time and the results of the trials confirmed all CJR's predictions – further demonstrating that their approach works."

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Seeing double

CJR partners with TOR Group (Tor Marine) for twin pilot boat deliveries.

Tor Marine has been at the forefront of modern ship construction for generations. From humble beginnings in the 1880s, the Torlak family has built a reputation as a leading shipbuilding and maintenance group, and today is highly regarded in its native Turkey and beyond.

That reputation for the highest standards and exacting adherence to delivery schedules was responsible for securing two of Tor Marine's most recent projects – twin 27m pilot boats. The vessels were delivered just ten months after the original tender was produced and are now launched. Both boats, which feature a steel hull and aluminium superstructure, have now been delivered to Saudi Marcap's for their operations in Ras Tanura refinery, located near the industrial port city of Jubail. Ras Tanura is the oldest refinery on Saudi Arabia's Persian Gulf coast and the location for 85 per cent of Saudi Aramco's exports, making it one of the country's busiest ports.

From the outset it was clear that the project presented several challenges, with a demanding set of performance and endurance requirements. The brief highlighted a need for the vessels to spend seven days at sea without being resupplied and be comfortable operating in waters with wave heights of up to 2.5 metres, to support ULCC and VLCC tankers that are mooring in Ras Tanura. To satisfy these requirements, Tor Marine, working with its partner Kort Propulsion, needed to find a supplier they could trust:

"With a top-of-class vessel, that's going to be on the water for extended periods, we needed a specialist able to design and manufacture a complete propulsion and stern gear package to the agreed criteria. CJR Propulsion was selected based on its reputation for quality and performance, as well as the extensive ability of its design and manufacture teams, but its price was still highly competitive so they were the natural choice," commented Kort Propulsion's Managing Director, Dave Parsons.

Following selection and working to a tight time frame, CJR's team set about designing a fully optimised, totally custom set-up which would meet the brief without reservation. The resulting package, which includes CJR's cast propellers and rudders, and all related stern gear, was delivered on time and trialled in the waters of Istanbul using CJR's TrialsApp, as Mark Russell, CJR Managing Director describes:

"Our highly technical approach to design and manufacture really comes into its own with projects involving multiple hulls of the same design. Sharing the investment across both vessels further maximises the value we are able to provide and obviously ensures identical performance. In this instance, the TrialsApp data we received following sea trials validated our design and performance predictions exactly – further demonstrating our accuracy and the repeatability of our designs."

Both vessels feature identical dimensions, with a 26.8m LOA, a 7m beam and 2.5m draft. Each craft will displace 155 tons and have the capacity to carry over 20,000 litres (25 tons) of fuel to supply the twin 1.340 KW YANMAR 12 AYM-WGT engines, which will drive the five-bladed, Nickel-aluminium-bronze CJR propellers.

This combination gives a top speed of 18 knots fully loaded, which matches the original design specification. The hull shape, combined with the optimised propellers and stern gear, is designed to be very economical at cruising speeds – an essential element of the original scoping document.

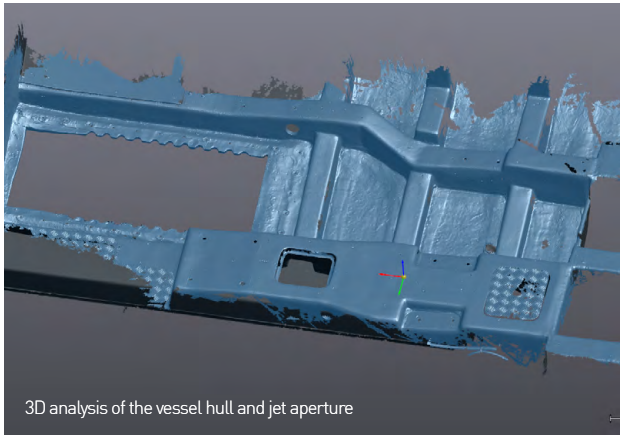
The spec

- Length overall (LOA) 27m
- Breadth 7m
- Depth 4.7m
- Draught max 2.6m
- Max speed 18 knots
- Fuel tank 25 tons
- Fresh water 11.5 tons
- Main engine 2 x yanmar 12aym-wgt
- Generator 2x cat c4.4 58eKW
- 2 x WC and shower
- 2x WC
- 3 x 2-man cabin
- 1 x 4-man cabin

Tried and tested

Promising safe access to shallow waters, improved manoeuvrability and high cruising speeds among their listed benefits, jet-driven propulsion systems, or waterjets, were once considered the future of boat propulsion for a broad range of vessel types.

More than a decade on, jets may not have reached the levels of penetration predicted at their inception but they still offer impressive advantages in the right environments and applications. However, as a minority of owners have discovered, step too far outside jet's preferred operating envelope and some of those benefits can quickly evaporate.



3D analysis of the vessel hull and jet aperture

This was precisely the scenario for one CJR Propulsion customer who recently made the decision to switch his 18-metre motor boat from waterjets to a traditional shaft driven setup. Alex Stevens, technical sales manager for CJR Propulsion, picks up the story and explains why it was the right decision:

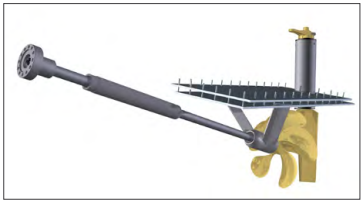
"The customer first approached us to discuss some fairly significant concerns he had regarding his propulsion system. He was becoming increasingly frustrated with the frequency and severity of the issues he was facing and wanted to understand if switching to a shaft drive would be an effective alternative.

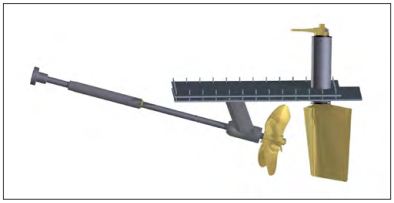
"The vessel in question is around 15 years old and is permanently moored in Majorca. The owner highlighted that the vessel's performance, manoeuvrability and fuel efficiency was not in line with his expectation. Equally irritating was the fact that the jets were regularly becoming fouled with debris and barnacles; due, in part, to the owner only being able to get out on the boat a few times a month. This combination of her sitting idle for extended periods and the warm waters of the Mediterranean meant that this particular jet-based propulsion system wasn't ideal for the way the owner operated the boat, and it was decided that a shaft drive installation would be more suitable.

"After seeing the predicted performance of a CJR shaft drive setup, the owner decided to go ahead and make the switch. It was a project not without its own challenges though, as it involved a fair amount of re-engineering and reconfiguration to ensure everything would work as expected, and we supported the owner throughout the process.

"We started by visiting the boat whilst it was in dock. On the quayside, we performed a complete scan of the hull using our portable 3D scanner.

All three images show 3D models of the propeller and sterngear designs





Back in the office, the resulting 3D model was loaded into our bespoke design software, so we had an accurate representation of the hull form in its current condition. That meant we were able to accurately position the new shaft drive system for peak efficiency and performance, also using the existing jet apertures to minimise the re-engineering requirement.

"To connect the shafts to the engines, new ZF325IV gearboxes were fitted and, following some modifications to the engine beds, the reconditioned Caterpillar engines were rotated 180 degrees before being re-installed. The new shaft system – featuring a full set of CJR Propulsion propellers, stern gear and rudders – was then mounted into the vessel.

"This is the perfect example to highlight the benefits of working with CJR and the advantages of choosing the best propulsion system for your needs."

CJR Fabrication renews certification to design and manufacture metallic diesel fuel tanks through DNV-GL

The CE marking is a key indicator of a product's compliance with the essential requirements of the Directive and the EU legislation requiring the CE marking. The EU Directive 2013/53/EU on recreational craft sets minimum requirements for the design, construction and testing of metallic fuel tanks.

CJR Fabrication have now made in excess of 40,000 fuel tanks for production and bespoke builders.

A new lease of life

When Kort Propulsion needed assistance with 3D scanning, they turned to CJR to ensure it was right first time.

When a customer approached Kort Propulsion about their 26-metre fishing vessel, they wanted to know how they could improve performance and achieve the bollard pull they expected.

Kort identified a need to design and manufacture a new propeller nozzle, but before it could be produced they required a better understanding of the existing hull and propulsion setup. With this in mind, Kort contacted CJR to assist in producing an accurate 3D scan of the existing hull and all appendages.

CJR's team travelled to the West Coast of Ireland, where the vessel was located, to perform the complete scan of the hull, direct from the dockside.

Completed in just a few hours, the scan enabled a detailed 3D model to be produced and delivered to Kort to enable it to manufacture the required hardware.

Dave Parsons, Managing Director for Kort Propulsion commented: "We have worked with CJR on a number of occasions and we have always been impressed with its team and the quality of work they've carried out. This project was no exception.

"CJR's rep was able to get to the boat rapidly and because the entire 3D scanning process is mobile, the boat didn't have to be moved, which again saved a significant amount of time and cost. The finished scan was exactly what we needed – detailed and highly accurate – and meant we had total confidence that the solution would be right first time, which it was."


Old


New

"The finished scan was exactly what we needed – detailed and highly accurate – and meant we had total confidence that the solution would be right first time, which it was."

CJR FABRICATION CJR PROPULSION

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