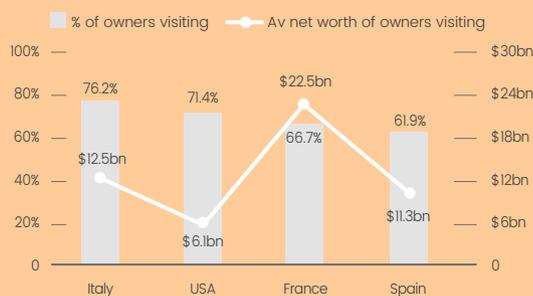


# The Pacific Superyacht Report

## FLEET

### The West Coast Ownership Report



## BUSINESS

*“It’s 4,500 miles from Florida to Monaco, but to go from Brisbane to Tokyo it’s only 4,000 miles. Yachts can also migrate through various destinations to get there as well – a luxury you don’t have between the Caribbean, America and Europe. Therefore, we need to get that perception over to captains and owners.”*

**Nigel Beatty, chairman,  
Asia Pacific Superyacht Association**

## DESIGN

*“Clients will always have a vision about what they want to achieve. Even the ones that go, ‘I don’t care’, they do care. They might relate it to a hotel or something else, but it is completely there.”*

**Tim Gosling**

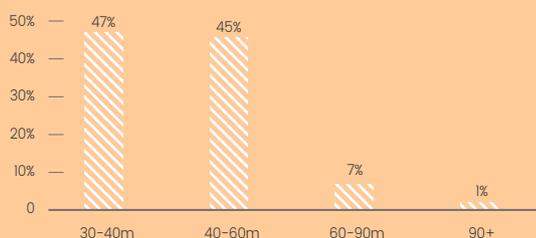
## TECHNOLOGY

### METSTRADE focus

The most innovative products, systems and services from the superyacht supply chain’s annual gathering.

## OPERATIONS

### Floridian superyacht cruising 2015-2018



## OWNER



Ivor Wilkins - Offshore Images



# Prospect versus protocol

Marcus Reynolds, business development manager at Safinah Group, looks at coatings technology, evolution and the challenges posed for R&D.

## ABOUT MARCUS REYNOLDS

### **BUSINESS DEVELOPMENT MANAGER**

SAFINAH GROUP

### **OVER 25 YEARS**

WORKING IN THE YACHT COATINGS  
INDUSTRY

### **FIRST PAINTING EXPERIENCE**

FIVE YEARS OLD, PAINTING  
A MIRROR MIRACLE DINGHY  
WITH HIS FATHER

### **QUALIFIED**

NAVAL ARCHITECT AND  
YACHT DESIGNER

## We may see an increase in failures as the industry shifts to new technologies.

It's a sobering thought that the coatings recommendations given to Noah for his 'yacht', by no lesser an authority than God himself, would today not comply with any regulatory requirements.

The timeline to develop a new coating can be between five and 10 years, and the huge costs associated with that (for example, a fouling prevention solution), can be prohibitive.

Several key factors are driving the regulatory framework (health, safety and environmental impact), yet the demands on the required performance of coatings is increasing as end-user expectations are ever demanding. Core chemistries and technologies that form the bedrock of coatings development for the superyacht and marine sectors are arguably mature, with genuine innovations few and far between.

Today, we use polyurethane topcoats, developed in the 1930s and the most widely used epoxy technology introduced in the 1940s. Advances since then boil down to better production processes of raw materials, more variety in Polyols, some updating of curing agents and the development of water-based products rather than any step change in fundamental resin technologies.

However, other factors that affect coatings are changing: the increased size of vessels, build and application methods and yacht operational patterns have all changed – or are changing – and these place different demands on coatings developers. Even the manufacturing systems used in making the coatings are evolving.

While recent focus has been on VOC (volatile organic compounds) reduction and antifouling performance, greater challenges face R&D teams looking to develop new products to meet the increased regulatory restrictions such as REACH, BPR (EU biocide directive), regional and local product laws and application legislation.

The test regimes in place for assessing performance have been built up around established chemistry still used today, but as novelty is the goal, it's possible this chemistry will drift into new areas. Will the current test regimes of product development and testing be reliable predictors of new technologies or will a whole new body of evidence and correlation between accelerated laboratory testing and real-life performance be built up? The point is that we may see an increase in failures as the industry shifts to new technologies, requiring new approaches to R&D, testing programmes and the interpretation of the results.

Consider three areas as examples:

### Reducing VOC

In addition to the development of high solids and solvent-free products, one technology increasingly being applied is the use of films or 'wraps'. These offer 100 per cent volume solid products, manufactured in a controlled environment, to produce a film that is less likely to have surface defects than one that is spray-applied. They pose significant challenges for yacht-manufacturing and repair processes, while potentially offering improved in-service performance.

More exotic finishes may be produced and applied, but what testing is required to ensure they meet the performance criteria for a superyacht-quality topcoat and anti-corrosive/substrate protection? Aspects such as UV degradation testing may be acceptable in their current form but what about abrasion testing or testing for creep? Would new standards and test methods have to be developed to deal with these? Their adoption would result in significant changes to the yacht-building, coating and refit processes.

### Antifouling technologies

The general low level of activity of superyachts poses a particular challenge for the antifouling system and the general management of the underwater hull.

New emerging technologies such as UVC LED light arrays in the form of tiles and surface-textured or engineered films are in development but these will pose similar challenges for paint manufacturers to develop suitable test regimes and through the impact they would have throughout the life of the yacht – from design to major refits.

Underwater hull management (cleaning/scrubbing) and the associated emissions can raise issues for harbours and marinas, so alternative products and technologies must be used.

### Fillers

The general increase in size and the geometric complexity of superyacht design contributes directly and indirectly to the performance required of fillers. These are often tested on simple flat panels rather than on complex geometries under various forces of tension, torsion, stress and strain. The mixing of fillers and the methods of application raise different problems. R&D work and testing programmes are slowly catching up as the industry starts to better understand the application challenges posed by these increases in yacht size and complexity.

The regulatory burden will only increase over time, forcing focus on alternative technologies that will, in turn, raise issues in terms of testing, not only to meet performance needs, but also to demonstrate the sustainability or 'green credentials' of any new product. For that aspect alone, there are currently no benchmark tests or standards that could guide a prospective new owner to ensure they are getting the performance they require or the compliance and 'green credentials' that are emerging.

These are challenging times indeed, and although I'm a believer, I don't think we can look to God this time for any divine intervention, let alone ask for an update to his specification! **MR**