

## GLOBAL SUPERYACHT FORUM 2006

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### Project Management Forum

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Enrico Sarla	Monaco Marine	
Andy Stewart	Techtonic	
Nick Horton	Dorade Projects Ltd	
Capt A J Anderson	WMG	

### Martin Redmayne

OK. Project Management. I think one of the key things is, we talked about lots and lots of issues in the last 28 hours or whatever it is. The thing we've talked about a lot has been crew. Crew eventually become project managers, as we all know and they get thrown into this very deep pond of running a major major project. The expertise and training they require is, as I understand, zero. This panel is really to discuss the role of the project manager, the expertise issues, the quality issues, and I suppose in a way where we're heading with project management. They're all pretty well qualified to talk around the subject. On the far right, needs very little introduction, Capt A J Anderson, the fastest finger on the SMS messages. Barry Gilmour, who's our lead speaker this morning on project management from the Chief Exec of Burness Corlett Three Quays, one of the leading project management companies. In between Enrico and Barry is Nick Horton, lawyer by trade, project manager and his representative now, I think he wanted to have a much more fun life? No offence to you lawyers out there. Enrico Sarlo from the Monaco Marine Group, sort of pedigree of sailing expertise round the world and running projects for the Monaco Marine Group now. And Andy Stewart, who has been very subtle in his self promotion of Techtonic and Atlas B2B by asking subtle questions that relate to his business. But we've let that go. I'm going to invite Barry to come up here—can you find your way up here without your glasses? Barry's going to kick off with a short 5—10 minute introduction to the subject followed by Nick, who will run for about 25 minutes on presentation and then essentially we're going to go into an open forum discussion on the subject of project management. Barry, please.

While Barry is making his way up here we've found out that we haven't drunk all the whisky so again Royal Bank of Scotland will provide an open whisky bar tonight—there's about 40 bottles left, I believe. So you never know, you might enjoy some more whisky again.

### Barry Gilmour

Good morning ladies and gentlemen. I'll try and be brief, I know how boring the whole subject is, albeit important.

Given that most yacht building companies and organisations employ corporate and formal management systems which, whether the yard is very good or very bad doesn't matter, their system makes them act as a single entity, all focussed at the project manager. So given that most yacht builders do that, and the consequences of owners not implementing a similar form of project management system, i.e.

because those consequences are high extra costs, permissible time extensions and potential litigation, which— in the last 12 months we have been involved in at least 6 projects, one of which has extra cost runs of over \$17million, and delays of over 10 months. So the consequences are high. This is I think exacerbated by the fact that quite often it's odd that, in an owner's normal business dealings, for example if he's looking at corporate acquisitions or whatever, involving a hundred million euros plus, he will employ the best professional advisers, there will be months of due diligence, there will be almost forensic examination of the projects before an investment begins and yet, with large luxury yachts, this can tend not to be the case. In fact they can almost be rushed, a team can not be assembled, it is not planned, it is not programmed. So I think we need to ask ourselves really why that is. Of course there are always exceptions, and there are many projects that are well managed by good teams, but there are a lot that are not and there are various reasons—and I think the start of it is possibly the number of people involved in an owner's team at the beginning of a project. This ignores the yacht builder's team. I mean, you've got the owner, the owner's representatives, usually a trusted employee who likes to call himself the owner's representative or the buyer's representative and he may or may not have any yacht building or ship building experience, for that matter. You've then got a plethora of personal financial and legal advisers, you then have specialist yacht lawyers, you may have yacht financiers involved, you nearly always have a broker involved, you can have the owner's captain, his chief engineer, purser, all of which have different sways on the owner, you have exterior stylists, interior designers, technical consultants and owner's specialist subcontractors. The surprising thing is that given this array of individuals, quite often there is not one single person who is qualified and experienced to manage this lot. They all pull on the owner in different directions and whether for ego needs or whatever they do not always act as a single coherent whole, in the best interests of the owner and the project. There are many other reasons, and I think maybe we'll talk about these later on. But I think that is the start of it, the number of people that can be involved, the hurry to build, the hurry to get a contract signed. So I think to start the ball rolling I think we need to say well, what is project management? And I think that is the definition in accordance with the Association of Project Management—*The discipline of organising and managing resources in such a way that these resources deliver all the work required to complete a project within a defined scope, time and cost.* A pretty simple statement. What are the definitions of a successful project? Well, one, the project is delivered. Two, the project meets the customer's requirements, three, the supplier is able to continue with future projects. In some industries many suppliers do a massive project and that's the last one they ever do. They can't afford to carry on. Then, the project is delivered in accordance with price, performance, specification and delivery. The project fully meets all the customer's requirements and, probably more importantly, the customer will use the supplier again. In our industry you do hear a lot of examples of *I'll never build there again.* So, good or bad, it's not been a pleasant experience for the buyer.

So the next point is, what is the role of the project manager? And again these are definitions from the International Association. Obviously, estimating and planning, assembling on time, reporting and liaison, *putting delays in plan* ? obviously a bit of a typo there but it's about programming the planning and managing delays in accordance with critical paths etc. Managing and coordinating the work, making sure that everybody does what they should do, and that refers back to the previous slides, where everybody should be reporting to somebody, so you have a coherent situation, and managing changes that may occur during the course of the project. With large yachts, this typically results in doing that sort of process in managing changes or variations including effect on price and delivery, management of buy/supply items and weight control (that's one that seems to go a bit astray on

occasions), ensuring confirmation of specification, programme management, milestone achievement, very very important in terms of payment schedules, programme forecasting—that's to actually forecast whether the programme is going by various analyses, formally reporting to the owner, examining permissible time extensions, and any force majeure claims, and including a builder's onus to mitigate those actions, direct interface with the shipyard project management to ensure that confused reporting and communication does not occur and management of the owner's project team. I think this is the real nub of it. Managing all of these disparate interests into the owner's best interest. To achieve this, the typical structure can be as follows.

If the owner is a particularly hands on owner, and some of them are, and they're very interested, you may not have an owner's representative. Likewise the project manager, if the captain is particularly skilled, experienced, and whatever, the project manager can be the captain. These can be tailored to an owner's specific requirements but that is a typical model that I believe should be used and it gives clear control of a project and without this I think problems can build up. If you look at the benefits of this, they are obviously to reduce cost to the owner, to reduce the delay, to reduce the risk of litigation, especially given today's world where the demand is quite high, slots are not always readily available and that's bringing less experienced builders into the market. And in some cases, what I call virtual ship builders—they're really systems integrators, but they don't actually have a yard, they subcontract everything so the whole key element in here is project management. Efficient project management. And this can often be to the benefit of the yards that are on a very very steep point in their learning curve, if you can bring organisation from the owner's side it even helps the builder on some occasions. So I think the key thing is efficient project management and as was mentioned by a speaker at last year's—I think Project 2005, from the aerospace industry—invest in preparation and planning, down to the last detail, and then build as quickly as possible, in the shortest possible time. Don't rectify faults during the process unless they're of a tactical nature. Quite often they aren't thought through. So more time in preparation, involving the project manager from the start, because he's not always involved until very very late on, even after the contract is signed, and then build quickly. So that's all I have to say for now. Thank you very much indeed.

## **Martin**

Thank you Barry. Nick, do you want to join me? Can you do the technical stuff?

## **Nick Horton**

Good morning everyone. To expand slightly on Martin's short intro about me, before running Dorade I had 20 years' experience as a lawyer in private practice advising on contracts and litigation in the yacht world. Some might say I saw the light, in fact Martin suggested I might have done. But however one puts it, the fact is I come to projects with a background in contract and in law, and one of the things that I have an acute awareness of is how things can go wrong and how difficult, once they have gone wrong, it can be to put them back on track. The threat of litigation in a project works rather like a nuclear deterrent; everyone knows it'll be awful and the desire to avoid it, or the fear of what it might mean, works to keep the parties on track, much as the nuclear standoff between East and West kept the peace during the cold war. I don't think anyone would suggest that the cold war would be a creative, auspicious or productive template for an owner/yard relationship. The way the nuclear deterrent worked and the way the litigation threat works is to make the parties fear deployment

of the deterrent more than the fear of continuing to rub along. But a great yacht project doesn't just rub along and, if it did, it's not likely to be called or seen as a great project. My thesis for today is that all truly great projects, real success stories, are characterised by common themes. Some of these are positive, they're on time, they're on budget, they have the right quality, and they enhance the reputation of everyone involved. Some of them are negative—they're not marred by litigation, they don't result in insolvencies amongst suppliers or subcontractors and the yards and the owners want to do the job again.

In the UK we look at the incredible engineering achievements of, for example, Brunel, and while we marvel at his farsightedness and engineering elegance we all know that he ruined his backers time and time again and the taint still lingers, 160 years later. Closer to home we can't speak about some yacht projects without recalling the fallout amongst the contractors, the litigation and insolvencies which dogged the projects and which actually are forever linked to the boats themselves. Are these great projects? Well from a project manager's point of view they most certainly are not. What we want to deliver is a seamless project which meets its objectives without fuss, apparently effortlessly. This isn't just about execution management, which I think is often regarded as being project management in the yachting industry but it's something which goes much broader. It's about integration of all the disciplines, the planning, the monitoring and the execution processes. It's about managing the scope of the project, managing time, managing costs and resources and it involves managing the people, including communications, leadership, teamwork and you can add to it technical and commercial issues, risk, value, finance. You've got a better view then of the project manager's domain. Too often builds and refit contracts become an adversarial process seen as us against them, rather than as an exercise in partnering. Sure, there are times when the differing interests of owner and yard or yard and subcontractor give rise to an adversarial atmosphere but I'd suggest that if this cannot be put away it will have an unfavourable impact on the project. I'd go further and suggest that there are two typical causes of the adversarial approach; one of them is fear, a heightened sense of risk which often stems from inadequate planning at the concept stage, or a commercial mistake in pricing or planning the tender. Secondly it might be caused by a lack of confidence in the project, its feasibility—one of the parties is troubled by it. The lack of confidence may be on the part of the yard; it's beyond us, we can't do it. They don't say that but they may think it. Or on the part of the owner—it's not what I thought it was going to be. You might add others—for example hard commercial reality in a trade where the price is always cut to the bone and where price is the chief mark of success. There are undoubtedly parts of the superyacht industry where things operate at that level but in general this is not an industry where pile them high and sell them cheap prevails. We're not dealing with apples and bananas. In project terms the introduction of an openly adversarial element results in what I call dissociation; that is to say that rather than the seamless integration of the three processes which you see on the slide—planning, execution, monitoring the straight control, a distance creeps in between them. A way of describing this is that the control or monitoring process starts to cast about outside the project for answers that it cannot find within it or which perhaps it does not trust. More weight is given to external advisers than those within the project loop. Often, and since they were not party to the original time frame or the project plan, this leads to time dislocation. The control process stops, to wait for a further external input. It stops feeding back to the ongoing planning and execution processes and gradually the project ceases to be seamless. Earlier I spoke of two typical causes for projects taking on an adversarial quality, fear or a heightened sense of risk or a lack of confidence in the project. I suggest that in your projects these two factors may often be seen as stemming from a lack of coherence or unrealistic objectives. Lack of coherence may be rooted in the planning, conception and

development of the project, little islands of unshared knowledge, matters which should be known and shared with all within the project but which are not. Fundamentally this is a communication issue, often exacerbated by time pressure. In turn, time pressures are closely related to the realism or otherwise of the project objectives. Unrealistic objectives particularly in time and cost terms are a hazard for any major project. In yacht projects they're a really genuine hazard. They're privately, not publicly funded, cost is always a real factor, overruns that might be ignored in defence, medical, space or other public projects are simply not acceptable in the yacht world. Nobody I know sets about building yachts for the next generation. At a time when build capacity is fairly stretched, there remains the risk of setting unrealistic objectives. Why is that? It seems a perfect time to try and get a sense of realism into these things. I'd suggest in part at least it's a failure to manage expectation; put at its simplest, it's a success of marketing that outruns the balancing view of the technical teams. New entrants to the market both on the yard side and the owner's side, owners' imperatives of time and cost, the unrecognised issue, the unspoken issue of technical financial and technical resources all encourage unrealistic objectives. So where does dissociation in a project lead? Well it leads to trouble, to unsatisfactory outcomes, to reputational damage, quite often for everyone involved. And it also leads to disputes. If dissociation continues, and one ends up in a dispute area, one can see a further dissociation between the processes, there's a slowing of the execution process, sometimes even stopping the execution process; build stops while the dispute is looked at, considered and perhaps resolved. Disproportionate effort. energy and resource goes into the control and monitoring process; sometimes we see the development of a separate sub team, a separate process all of its known, simply to deal with and run the dispute. Is this desirable? Plainly not. So how do we deal with them during the project? This is my order of preference. Ideally one avoids them, but to a certain extent they're inherent in the process. If you can't simply avoid them then quick resolution has to be the answer. Experts' decision—adjudication by a technical expert on a technical issue is very often provided for in contracts; and on technical points alone it's a great way to deal with them, getting them out. Mediation is a less common process but is highly desirable because the parties actually retain control of the dispute, of the process and of the outcome. People have often said to me that lawyers are like chickens—once you've let them out of the coop it's the devil's own job to get them back in again. You could store the problem up for later, resolve the dispute further down the line, but it invariably creates an atmosphere of uncertainty and perhaps further fear. Or you can subject them to the due process of law which, as I think everyone would agree, is not necessarily the ideal way to get the job finished. In every superyacht project it's my view that there has to be an absolutely common communicated vision, shared amongst the project team right from the beginning, and the success of the project is going to be measured by the extent to which that vision has been understood and embraced by everyone involved in it. I'd suggest that project documents, contracts, specifications, have a critical, not a formal role in that communication process and I'd be delighted if we could now throw the matter open to discussion.

### **Martin**

Nick, thank you very much. Right, the idea now is to throw it open to the floor— can I have some light, please, on the audience. Anything the panel want to add to those little introductory sessions? Andy, do you have anything to say?

**Andy Stewart**      Tectonic

Project management, amongst all the other items that were discussed and presented this morning by the presenters is also about communication within a group of people and for me primarily the most important thing in project management is you have all the tools available, but it's also about how you communicate to the group of people you're working with. And I think that's a very important thing that we should touch on today —how that communication works between people that you're directing, and also people that are directing you, and how they are kept open and avoiding the confrontation that can come about when you're doing projects.

**Martin**

Barry, can I come back to you? You mentioned at the beginning \$17million costs overrun, 10 month delay. How did that get communicated to the owner?

**Barry**

From a distance! It was a bit of a shock, yes.

**Martin**

But how does that happen? How does that in this world happen?

**Barry**

In this particular case the owner's representative, who was a Middle Eastern gentleman, disappeared. That's how it all started to build up. And it was a rather sad case where the captain, who was forced to take over the role thereafter, wasn't particularly experienced in building a rather large vessel, but the damage had already been done, so it wasn't his fault. And then it was almost, we found—well, it was apparent that the formal progress meetings had not been being implemented; that to be honest is bad news for the yard but it's good news for the yard as well as the builder, because the variations weren't being logged up, there'd been massive changes, the interior designer had made changes, it was a plethora of individual claims which at the end of the day totalled up to a very very large claim and a huge delay.

**Martin**

And is this an exception to the rule, or a one off?

**Barry**

I'd like to think it is. But it's not unknown, and I'm sure that people in the audience have their own experiences. It's not unknown for vessels to be late and to cost more than they originally set out to do. And I think that is probably more than normal, although I'm not saying that that order of magnitude is normal. It would be interesting to do a study at some point about this.

**Martin**

It sounds like an idea. Any hands out there that need to add something to this conversation? Yes, thank you very much in the back right.

**Gerry Butler**    The Royal Bank of Scotland

Just a quick question for the panel. What percentage roughly do you think it is the owner's or owner's representative fault for delays in terms of trying to redefine the spec half way through it or what percentage is it the yard's fault. Or is there a kind of—you can't put a figure on it. Just from your experiences.

**Martin**

AJ, who's to blame?

**Capt AJ Anderson**          WMG

I think it's probably 50:50. You know, obviously it depends on the shipyard. But I think any changes affect what was planned to happen, so usually the changes occur on the shipyard's side if they get classification which says they must do something different, or the large yacht code is interpreted differently, by Cayman Islands or someone else. That causes them to have to make a change, otherwise they're not going to change, so then all the other changes would be from the owner's side. So maybe it's even 80:20. In our case all of our things go so well there are never any change orders.

**Martin**

You heard it here first. Nick, you mentioned letting the chickens out of the coop. How many chickens are there in the audience today? Any comment on that? Do the chickens love the project management process to fall down? Can we have Eric's comment—I can just see him.

**Eric**

Turkey more like. Normally at Christmas. It's not about us being let out of the coop—it's us contributing to the process not breaking down. And if we get let out, it's to stop the litigating. It's not to push it out and make it go to litigation, because the only people that win is us as lawyers. And if we win, the clients hate us, because we charge them lots of money.

**Eric Goldring**          Goldring and Goldring

I think that a lot of times the lawyers in trying to make sure that it doesn't get to litigation assure the litigation, and a couple of the comments about specifications should be emphasised. There was the little chart that said the contract and the specifications are critical; but it's the implementation and the interpretation of the specifications that matter the most and that's where the money should be. I find that I'm far less effective as a lawyer than I am as a project manager and I think that a lot of attorneys that are involved in this construction business and large houses and commercial properties, they don't really understand what goes on on the floor. And I think there needs to be more of a focus on that from us chickens.

**Martin**

And turkeys. Can I ask the panel—maybe Enrico can come in here. Just jumping on a different subject matter—of qualifications of project management people. What is your experience? Are the people who come into the yard with a project qualified to do the job? And does that cause some of the logjam?

**Enrico Sarla**          Monaco Marine

I think the issue of qualification is quite important. Actually I would like to stress the fact that we like to talk about project management and project managers and we like to coopt the project managers from their business of boat captain, which is mostly as you mentioned, that 90% of the cases of people come from there, which is not bad in itself but the fact is to be a project manager you have to be a manager first. And to be a manager you have to be trained as a manager. So it's not automatic that someone who knows about boats and knows about technical issues related to boats can become a project manager automatically. That's not true. In my experience, in a lot of cases project managers become a project manager for their own election and because they have certain experience but they're not qualified as far as managers to become actual project managers, so you find the problem of when you run the project they get into it, they do have the knowledge but then they can't manage the situation, the communication side is very important. You have to be always on the lookout, not to have any misunderstanding with the counterpart, with the client. You are thinking and you are acting one way, the counterpart is thinking and acting a different way. So if you don't check constantly the processes through with the client you may find yourself in diverging directions and that starts a litigation process down the line somewhere. So this is very important. The qualification of the project managers as a manager, someone that can manage human resources, material resources, timing, scheduling and all the different technical aspects of this job which is rather complicated.

**Martin**

Nick is it better to be a lawyer becoming a project manager or a captain becoming a project manager?

**Nick**

I can't tell you because I've never done the latter. From a personal opinion I think a legal background is fairly helpful in the sense that the regulatory framework under which everybody operates, whether it's on an employment law basis, whether it's on a regulatory basis, under the ship operation, it is helpful to have a thorough grasp and understanding of how the law works. And equally it's helpful to have a practical understanding of how boats run and operate. But at the risk of being tendentious I suppose it might be easier for a lawyer to learn boat skills than it is for a captain to after the event requalify as a lawyer.

**Martin**

What do you think about that, AJ?

**AJ**

First thing, I'd have to hire a lawyer to understand what it was he said, to help explain it to me. But I think the idea—our advice is to put a few words in the first two sections of the specification that gives a parameter for what the owner's representative is, not just that he has a certain authority but also specific authority in respect of approving drawings, or reviewing certain points of the construction process whether it's a sea test or whatever. And if you define that in your specification then every time it gets to that point, all the fellow has to do when he walks into the yard is say well, it says here I have some input on this point, and that might save having to call somebody in Nick's office each week. It lays it out early, before it becomes a problem so I think a captain can use—I don't know how many captains there are in here, I happen to be

one, and I think we could use some help once in a while but I believe that if you get the specification and contract right, that the project goes pretty well.

**Martin**

Barry, is there a qualification that your guys have to make them project managers?

**Barry**

I think there's no one qualification.

**Martin**

Do you think there should be?

**Barry**

Well if I can just come back on the original question, I think that basically you're looking at the qualification you're talking about, whether it be a lawyer, captain, engineer or whatever you are, that is the preliminary, that's the start point. Project management is a profession in its own right. It's not a let's make it up because we can all do it because we've sailing and because I've been on a sailing vessel I can now build a 130metre superyacht. You can't do that. People think they can, and that's no disgrace to whether it be captains with class one certificates or chief engineers with class one certificates, which most of our guys have, because we ask that question. We only employ people with class one certificates. And then we train them to be project managers and we try to get them to the stage which we're now doing without all qualifying for membership of the Association of Project Managers. Which is a separate professional body. So we train them to be project managers; the very disciplines, they need to be relevant, whether it be law, even finance, or whatever. One of our best project managers in my opinion is from the offshore oil industry and he's used to building very very large projects very very quickly and under total control, with all these elements of as we said, communication, which was mentioned earlier on. It's a process but it's a profession in its own right. And I think in the yacht industry the problem is it seems to be an unstructured —well, how do we make one, and can he do it? It's a bit like reference to owner's representatives. Well to be honest what are they? What is an owner's representative? He can be anything. He could be a friend of the owner, he could be a broker, whatever. But they cannot be in a position of authority in managing the project. Yes, we have to talk to each other and all be friendly, but it's not a cooperative. You need a chain of command, as you do on a ship. It's a profession in its own right.

**Martin**

We have a question there from Eric, I believe.

**Eric**

What Barry is saying is very true but I take a little bit of a different approach to it. I think that captains are important but this is the most is an emotional thing for most owners. And we've had some owners up saying how much they love their captain. And you know, you can love a woman, you can love your captain, but that doesn't mean either one makes sense. And you know it could be the right girl, it could be the right captain. But it doesn't mean that because you know how to drive a boat or how you can manage the staff and the crew on a yacht that you understand the

requirements on laying cable and meeting an ABS requirement or an MC requirement. They're two totally different things. And it gets crossed over. From the legal side it's great that you can read a contract, it's great that you can think you understand a specification but there are naval architects and naval engineers that are involved and again it's a matter of understanding from the shipyards perspective why that thing on paper doesn't work. Because that's when project management really comes into play. It's not when it's all going along smooth as silk and everybody looks good, it's anticipating the problem. There was I suppose you could say a typo in the list that I saw there and the reality is—

**Martin**

I thought it was an accurate statement, actually!

**Eric**

Actually it was accurate. You need to plan for delays. It's inherent in what you're doing, and if you go at a project saying well there's not going to be a delay, I'm going to get the shipyard, you lose. And so there's this fluidness, can you do it without a captain? Well that's a mistake, because the thing's got to run and you need that input. Can you do it without a lawyer? No you can't, because that's the nature of the animal. But the project manager needs to be able to deal with the emotions of the owner, the indifference or whatever of the owner's representative who may be his cousin, maybe his son, maybe he has not a clue what he's doing or maybe he's an excellent individual. And you've got to be able to juggle these things, these amorphous subjects, to be effective. So it's not the captain's better or the lawyer's better. I think you need to have all of it, but you need more.

**Martin**

More people or more knowledge?

**Eric**

More knowledge. My approach to project management on refits or whatever is, more important than having the right answer is having the right question. And you rely on the people that make them part of the team. If you're the figurehead, and give the impression that you're disempowering the people that you're working with, then you don't get the input.

**Martin**

Thank you Eric. Down in the front here, please.

**James Pitman** Yacht captain Heavenly Daze

Just on this subject again. We still don't seem to have what qualifies someone as a project manager. We've had some people say they've got to come from a management background, others come from a boating background and get trained inhouse but is there any project manager qualification—I mean it's across all industries, villa building or high rise building. Is there a qualification you can have to market yourself as a project manager? Other than experience?

**AJ**

Before Barry gives you the good answer, the correct answer, first I think the important thing is you have to define the role. And Barry had up on the screen the definition of what is a project manager and one of those things is to identify human resources. In a refit as was just spoken about, it's the captain or the owner's team that are actually managing the project in a refit because they own the vessel. In a new construction the shipyard is the project manager, they have the resources, they have to do the timelines, it's up to them. The owner's team or the owner's representative, except of course in Barry's cases they do some pretty major projects. In the normal say 50—85metre range the owner's team really are there as coordinators of information. They're project coordinators. They're not telling the workers what to do and when to do it, they're not overlapping the trades, they're transferring information, they're the communications people. So the role of the owner's team, in our view, is that they have two things that they're bringing; they're bringing this communications coordination, and they're bringing maritime expertise. So what is this boat going to need for construction. Is the time and motion correct? If they make the angle of the steel to the caprail a little different will it make long term maintenance a little easier—which is critical information, incidentally, if you want the boat to look good 10 years after launching. So the owner's rep even if it's a captain on the team, underneath the communications director, however large that team is, the owner's team is bringing two things to a construction, to a new build. One is the communications link and tracking all that information, making sure it all gets done—once in a while of course reminding the shipyard to read the specification—and the other of course is to bring some maritime expertise.

## **Barry**

I don't know. Like everything in life there's no right answer. But to answer the question specifically, yes, there are formal qualifications in project management and in fact you can do an endorsement on quite a lot of degrees in most countries, like a BSc or something, then you can specialise in project management. And that is what, as I said before, we try to make sure that all our project managers are class 1 master mariners or class 1 chief engineering officers, supplemented then by hands on training on various projects and then qualifying as a project manager as a qualification. Now I think part of the problem with yacht building is that you can compare it to lots of other industries but if you compare it to the building industry, even though you work on several discrete projects, it is a process. Project managers move from one project to another to another to another. In the yacht building industry they tend to be very discrete one off. The owner will build, he will build one vessel, say between 36 and 48 months, depending on the size, and then the team which was never really created in the first place, it's all about building a team, is then disbanded apart from the captain and the crew. Everybody goes their own way and they have to find other projects. Some people even leave the industry altogether. Because that's it, the project is over and done with. The captain and crew go off onto the horizon, everything is fine. These guys have to go on somewhere else. And as I say, some of them stay in the industry, some of them go out of the industry, but there's a lack of continuity. What you really need, in my view, are organisations that have learning curve experiences who are project managers and because they have a consistent flow of projects they can bring benefits to the owner and the more important thing is the project. They can make the project successful. And that's part of the problem here. It's a very individual one off kind of process, when it should be more of a continuity, and there's no reason it can't be, but it's because of the individual inputs. It's full of individuals. A lot of the people involved in our business are—I'll say it, I'll be quite blunt about it, they're self employed individual guys who get on a project and then that's it. And when they go off to the south of France to live after that or

whatever they do, that's it. That's not good for project management of large luxury yachts per se, as a subject. You need continuity and professionalism,

### **James**

Just one more quick question if I can. Yes, that answers a question in some ways and I note the difference between big new builds and refits. Refits themselves can be pretty intense, like a million a year and 3 months to execute it, and as it turns out I see as a captain you've got to use the resources of your crew who are around anyway; they're the ones who've usually come up with the list of what to do and for eight months of the year sitting on anchor they're working out the best way to do it, to run a wire or to change something out, or whether a washing machine will fit down there, and inevitably they do actually end up managing a particular project of the refit. So I do see value in the crew, or training the crew as individual project managers on a refit level but not on a new build or things like that.

### **Martin**

Enrico in your experience what happens when a yacht arrives in the yard with a wish list from the crew —how accurate is it?

### **Enrico**

It's a moving target actually. Because the worklist is always one thing at the beginning and then as you go into the job it transforms almost daily. And that's one of the pitfalls of this aspect of refits for a repair shipyard. Because it's very dangerous; you start with one idea, you do a certain specification, obviously with a costing involved and quotations and so on; you even go to the extent of drafting a contract. Then all the work you've done before gets, not thrown out of the window, but needs constant updating, so it's added work for the project manager; another preoccupation. To keep track of that and also to have the validation on the owner's side, because the captains are always coming up with all these ideas—they want to do things but does the owner agree? Is he aware of this thing? So you have to validate. It's very tricky terrain. And it needs, as we said before, accurate planning and accurate execution which means a lot of communication. I think new build needs communication but refit project management needs a lot more communication because it's ever changing and there are more players involved and more factors that can go wrong. But I want to add another thing—we found that it's important in building a project management team for refits and repair to have different specialities, so the team can respond to different needs. With a different project manager for a certain speciality of the trade. And that helps a lot, because if they're all working together and all communicating but each one can bring to the table his individual experience and skills on one particular domain that helps a lot.

### **Martin**

Thank you. Any more hands out there? In the middle there, Ulissa.

### **Mark Robson**      AquaStar Aviation

My personal experience with regard to this morning's discussion about helicopter integration is that when you involve a helicopter into one of the new builds especially or into a refit a lot of decisions are made very early on by designers, by brokers, by people who are not going to end up operating the aircraft. And aviation brings a whole new wealth of rules, regulations and inflexibility to the yachting industry which

need to be addressed at a very early stage and need to be functioned and focussed on by the project team throughout. One particular project I was involved in overran by nearly 3½ months and 2½ years on is now going in for its fourth refit on the helicopter related systems. Because no pilot and no person involved in the aviation side of it for the first design, the first 2 ½ years of the build. They were brought in for the last 6 months. And as more and more of these large boats are being built with helicopter related systems more and more focus will need to be provided by both the project managers and the owners and the owners' teams on how and where they want the helicopter to integrate into the ship, and with the captains on how they want the crew to integrate with the crew of the yacht.

**Martin**

Who is to blame on that project?

**Mark**

The specification stated *there will be provision for a helicopter.*

**Martin**

But who is actually to blame for the actual omissions on the requirements for the refit?

**Mark**

I think there would be lack of knowledge. The omissions would be because no-one when they first looked at it, no-one gave them the correct advice so into the specification went a very vague requirement. During the project management decisions were made that impacted the helicopter related systems by other systems such as the tender bays without the communication going to the third party that was developing the hangar system and those decisions were made on a yachting basis rather than a aviation basis and then during the refit process decisions were made for time and cost.

**Martin**

Any comment. Barry please?

**Barry**

Yes, as an ex pilot it's an interesting subject. I find that a slightly unusual situation. We're doing four major new builds now all of which have heliops requirements specifically stated and in all of which we've used not only the owner's pilots as part of the system for specification but we've actually had heliops consultants involved. So the situation you've explained to me is slightly unusual. So I would say there is an awareness certainly amongst the major yacht designers, and builders, and certainly people preparing performance specifications of the acute need for ensuring that the helicopter capability is maintainable and within the operational framework and envelope of the ship and the aircraft. So I've not really come across this kind of piecemeal approach that you're mentioning. I'm not saying it doesn't exist, but I wouldn't say it's normal.

**Martin**

Is it normal?

**Mark**

I don't know. I've been involved in three projects that have had what is described as a piecemeal attitude to it, yes.

**Martin**

Can you name them?

**Mark**

I'd rather not! There are too many turkeys.

**Martin**

Any more hands out there? I have a question on email that's just come in. Sorry Adrian this is directed at you. What formal project management training or qualification do you have or need beyond experience and having earned the trust of the owner in a tough environment.

**AJ**

None. Which is the same question as I think I was asked last year. And that's the same answer. If you go back to licensing, there's a lot of fellows out there running around with a 3000 ton license to drive a 285ft motoryacht but they can't drive a 285ft cargo ship. And that licence doesn't necessarily give them the experience and the real qualification, it gives them the paper qualification. I definitely agree, personally I'd like to go to spend a week with Barry and he can teach me how to do it, in a good formal way but as far as the formal education —none of our guys have that except they've read books and they've had experiences with refits and as the captain over here said, it's one thing to build a boat over the course of three years where you have your trades all spaced out nicely, and as Enrico knows, it's another thing to have 6 trades working in the same two square metres. That takes a lot of careful planning and communication so I think that people who have refit experience as well as operational experience, and then some commonsense as far as understanding what time lines are —I think they can play a positive role in understanding what the shipyard is doing. Again, I go back to the shipyard as managing the project. Except in some of these things I think of a perfect example where he went in and just bought a couple of million manhours and he was a general contractor, he did everything. But in a normal new build situation you're going in there to coordinate the project, to communicate, so those skill sets—some captains have them and some don't. Some company owners have them and some don't. Some project managers have them and some don't. But the formal qualification I still have zero.

**Martin**

Thank you. Yes, in the middle there thank you? It's favouring Ulissa's side at the moment, 5:1.

**Bjorn Vang Mathisen**      Ocean Independence

Just a question to the whole panel individually. Do you feel that the best project manager is one individual person or do you feel it is working best if it is a company with several players taking charge as a team of project managers, you could say. You could answer what you feel is best and why you feel so.

**Martin**

Nick what do you think? Are you an individual?

**Nick**

Yes. Personally I am. But as to how I work, I tend to work with a fairly loose network of skills so if one needs a particular skill one hooks up with the technical requirement for it. I think there needs to be single point of project management and that is the identified project manager, and there needs to be a succession planning in the event that he gets sick, otherwise engaged, or difficult to get hold of. He has to have a backup team but whether it's a private individual or whether it's a one, two or three man company or a large organisation I think doesn't really matter, as long as the network is in place for support.

**Martin**

So it's a system rather than people. Andy what do you think?

**Andy**

Yes I would agree with that actually. I'm fairly certain that there's two separate sides to project management per se; one is the technical side where you have a specification, the right people with the right qualifications and these are or should be givens really, and then the artistic side of it, should I say the social responsibilities within the project and that is again the communication. We work as a group of people—I mean there may be individuals on each project but as a team we assess the problems and then obviously get the right technical answers, and then we bring that into a situation where everyone can have their comments but then there's one person that makes the decision on the project regarding the information. And going back to the specification of it, obviously on new builds from the point where someone sits on their boat in St Tropez and decides to build a new one to when it's actually built, can actually be between 4—5 years and I think there's a lot to do with value engineering that when you do update a specification it's generally to the benefit of the client in some ways.

**Martin**

Barry. I can always predict your answer but Enrico you just jump in first.

**Enrico**

I just wanted to add something again about the aspect, the management aspect, of this job. I think we can compare the industry to any industry really, a project manager is the managing director, like a managing director of a company. And it all depends on the size of the company. So the size of our project, in this case. Is it a new build, is it a refit, how big is the project. How many trades are involved, how many specialties, how many different things does he have to coordinate? So if he has to coordinate a lot of different things then he needs to be like the managing director of a large company, relying on a team. So really there's not a clear cut answer that's

good for everything. The project manager is someone who is a manager, has to manage resources, the larger the project the larger the team of specialists he has to rely on. So I don't think that the technical skills of a project manager are that important, and don't get me wrong. It's not that he doesn't have to know anything about a boat, but he has to be a manager first and second a technician. Because if he cannot manage the resources, the communication, have an overall view of the project and follow everything but he is a fantastic technician, the project will not go well because he cannot follow all the aspects that need to be followed to manage the project properly and bring it to fruition at the end. That's the point.

### **Andy**

If I could just add something, I think everyone would agree that on every single project you do, there's always issues. I mean some people call them problems but they're issues and it's resolving those issues that actually what I personally feel is the most important aspect of project management because you can have as many crucial paths as you want and milestones and etc etc and all the tools in the bag but it's what do you do if someone's mother dies; what do you do if this person's ill, what if that person doesn't have the technical expertise that they said they had within the specification— how do you deal with those issues. And it's the communication between the different layers, whether it's down or up that actually I feel builds a successful project.

### **Barry**

Yes, I think I'll try and answer the question directly. I think what you need for a successful project management—there must be discipline. And that means that one person must be put in control although I agree with my colleagues here, he must be a manager (it could be a she!) first, and then have some technical skills related to the project afterwards. But there must be discipline—only one man can be in command at any one time. He's got to assimilate the situation, make decisions on a changing situation and take advice when he needs it, but he must be in control of the project. A lot of the projects that go wrong, go wrong because there is not absolute control. The interior designer, bless his heart, I sure there are some in the audience—will go around the circuit to the owner direct, persuade him that maybe this needs to be over here maybe that—not in accordance with the GA I might add, or the contract specification, because there is no command. You must not be able to circumvent it, there must be a single point— I think with regard to continuity that's where from a project perspective, whether you use a collection of individuals or an organisation. Obviously I'm biased towards using an organisation. If someone is sick we just replace them with another one of our guys. Because we have 150 of them so we've always got the skills in house to do that. So that is not an issue for us. But it is an issue on some other projects but I think the important thing is control. You must have control. And that must come from a single focal point.

### **Martin**

Nick, please jump in.

### **Nick**

If I can just add to what Barry said. I think the Project Management Institute defines the characteristics of a project manager as being the single point of integrative responsibility. The idea being that the responsibility on the part of the manager is to

pull all the disciplines and skills together and to integrate them, which I think is a neat way of summarising really what it means.

**Martin**

Does that include financial responsibility ? the process of control ?

**Nick**

In terms of bringing the financial information into the single point, then yes it does, but then feeding it back to the owner.

**Martin**

And is that a risk? With a 17million overrun?

**Nick**

Is it a risk? Well it's surely a risk. But the question really is how the planning and conception of the project started in the first place as to how that piece of information regarding the overrun on the time is going to be received when you get to the end.

**Martin**

I have two emails come in. Any questions out there before I fire these? Yes, right at the front here, please Ulissa.

**Preben Kristensen**      The Dragon Project

I just wondered if, in a new build, it is the shipyard that is project manager—where does the project manager then come in as the person with the ultimate decision making, how can you reconcile those two things?

**AJ**

I didn't sign a \$100million contract, I'm representing the owner and the shipyard has got a responsibility to fulfil that contract so in our view we're there to facilitate, to make sure that the owner's original expectations are met and that the specifications in the contract which represent that expectation are followed as much as appropriate. Circumstances change during the construction and you can make some adjustments from the specification. The objective of course in this discussion is good project management, good owner representation, coordination and team cooperation. But the real goal is to build the boat that the owner expects. And the shipyard—they're a party in the contract. The owner is a party in the contract. And my little company, which is maybe 8 or 9 people, were not a party in the contract. We have professional liability but it certainly isn't going to cover a \$150million job, so our view is that we define our role very clearly—if the boat is not being built according to the owner's expectations and the specification can support us in that we make sure that the project manager of the shipyard responds to it. And if he doesn't have the authority then we would go to his senior. I think that the overriding deal here is that someone alluded to it a little earlier when they said that well, there's wives and captains, and you're right. I've seen it and I've almost been guilty of it once or twice, is that you say I'd like to have this, this would be a neat idea. Or if we move that switch a little bit to the right or we do something special but the shipyard says wait a minute, we've gone past that conversation, let's not go back there, we're still building the boat. So there's

a discipline, which I think Barry is alluding to, that there's someone that has to be there to bring order to the house and if there is a captain that's involved in the project and he's not capable of that responsibility of bringing order and maintaining that discipline then there should be someone above him or beside him to help keep his enthusiasm for building the perfect boat within the context of the owner's original expectation.

**Martin**

Any other point on that from the panel?

**Barry**

Yes. I think the short answer is that the owner's project manager is the single point of interface with the builder's project manager. Certainly communication is clear, everyone knows who's doing what to who, even if they don't agree with it. The communication is clear. So it's project manager to project manager.

**Norma**

I've got a question for everybody on the panel. I think any of us that go to boat shows on a regular basis have witnessed the proliferation of project management wannabees, owner's representatives, there's captains and engineers everywhere you go that are looking for that and of course we all know that they're building more and more boats all the time. Do you gentlemen think that there are still a lot of opportunities for these captains and engineers that want to become hopefully qualified, Barry, project managers or do you think that is just a pipe dream for most of them?

**Martin**

OK. Who wants to go there? Successful transition from running a yacht to running a project.

**AJ**

Well the first guidance I would give is that it's not as much fun as what everybody thinks it is. To give a couple of good ideas is a lot of fun and to see those ideas actually out there floating and operating is a lot of fun but the process, if it's handled the way that Barry and Nick and everybody here and out there would probably like to see it handled, it's actually a lot of hard work. It's office work. It's administrative work. And not quite as much fun for those guys but yes, I think with all the boats being built, there's certainly opportunities. Barry only has 150 on his project management staff, he could probably handle a few more.

**Barry**

I think the short answer is probably yes. I think that despite—I'm going to go back on what I said earlier, I think—all the things that have been said on here, and I've said that we've got a very good project manager who comes from the offshore oil industry I still like to think that fundamentally and with no disrespect to my legal colleague I think that qualified marine engineers and master mariners are a very good seed corn base for project managers. It's very difficult to be a project manager and have all the skills of management which they need to have, I'm not diluting my statement whatsoever, but it's also particularly useful if you can talk about class in a meaningful

way. If you understand the flag state authorities and their requirements and why they want them, it's very useful to have an inherent passing knowledge of stability and naval architecture. So I think that inasmuch as the engineers and yacht captains and even those from commercial service and the bigger vessels I think yes, there is a very very good opportunity for good people. Good people. Commonsense people who want to do it. It doesn't always pay well, but there's a lot of opportunity.

### **Nick**

I'd simply add that not only is there opportunity but it also seems to me that there is the need and that the way all the books are at the moment there is a definite dearth of project management skills to back and fund and run everything that is currently going on. So I think yes, it is definitely a thing to look at carefully to see whether or not it would suit them and whether or not their skills are exportable into it.

### **Andy**

I just wanted to add I'm ex professional crew and I don't have any formal qualifications in project management but we complete projects on time and in budget and if that's an endorsement for being qualified then fair enough. But I think also that I'm quite looking forward to seeing what SYBAAss come up with with this new qualification that they want to come up with. I think it's more of a certificate that will enable people within the industry to work in certain shipyards and I think that is going to be a very good mechanism by which shipyards and owner's representatives and project managers can start working more in tune with the requirements of both sides and I think if there are people who feel that they want to cross over, I for one am interested in taking a certification. I think that's going to be a very valuable going forward.

### **Martin**

It's a whole new kettle of fish. Excuse the pun. Enrico do you have anything to add there. That leads on to a perfect question actually, Andy. This is the anonymous question. [Norma, I'm sorry, does that answer your question? Are you going to tell all your friends to now become project managers?]

Can you ask the panel if the shipyards are themselves organised in such a way to make the best use of well organised project management teams, can a badly organised shipyard defeat an owner's well organised team? There's some shipyards in here that I'm going to ask to ask the question as well, but who wants to answer that. Go on Barry.

### **Barry**

So the question was can a badly organised shipyard defeat a well organised project manager? No.

### **Martin**

OK. Anyone to counter that?

### **Andy**

I think that if either side of the project are not working 100% you're obviously going to increase the failure to some degree. I think everyone has to be working as a team for

it to be successful and I'm sure that just like the yards get frustrated when they're not working with a good team from the owner's side, the same can be said of when you have a good team working with the shipyard that don't understand what the actual requirement is.

**AJ**

Even in one of the best organised and most respected ship builders in the world, as Barry says, it's about people. And everyone can employ a project manager that either has a bad period when he's semi conscious or could be he's comatose for the duration of your project, so the owner's team at that point they really have to get in there and talk to the workers a little bit, talk to the shop foreman a little bit, and make sure that the specification which they haven't been allowed to read yet is more or less being built to. Yes it can happen even in the best shipyards, not that I've had that experience of course but it can happen that the project manager of the shipyard can affect the project or at least can affect what the owner's team must do to respond to it.

**Eric**

I think the question is posed as exactly why having an engineer who just came off a yacht or a captain just came off a yacht is not qualified to be a project manager. The concept is, if you've got a bad yard, you've got to be thinking as a project manager about 8—10—12 months ahead of wherever the yard is, at a minimum and you've got to say you know, if they're not doing this now, and that's going to lead to this other thing, which leads to these four other consequences, I've got a lot of money that I've got to deal with, and it's not job preservation that should be no. 1. In other words, the project's going to be an extra 18 months and 17million dollars so I'm in. That's not your job. And if you need to stop because you understand the legal ramifications of it or you need to adjust in some way, you need to have that talent, that expertise, to make that call. If you have someone that's not qualified in those ends, doesn't have the experience in those ends, chances are he's not going to even see it.

**Martin**

Thank you. Any other hands coming up? In the front here. The two girls are converging upon you personally.

**Malcolm Lindsay** Hill Robinson

The question was raised can a bad yard defeat the owner's good project team. Well, if you've got a good project team, how did they pick a bad yard?

**Barry**

Well the panel didn't ask the question, with respect. It came from the audience. But I take your point. I mean, if you're doing the process properly then you would never select a bad yard in the first place.

**Martin**

Surely no bad yards exist in this industry.

**Barry**

I think in reality there are a lot of inexperienced yards emerging, especially in the far east. And I actually think that whilst there are some elements of confrontation between the two teams the whole goal is to not achieve confrontation and in many ways especially with yards who are willing but inexperienced a good buyer's project management team without prejudicing its contractual and legal rights can actually help the yard achieve the owner's goal. And I see that as part of a good project management organisation as well.

### **Andy**

Martin I have something to add to that. It makes a slight difference as well whether you're talking about a refit or a new build. If you're involved in a refit and you have a yard which has been selected for the general reason that you know you're doing a paint job, you're doing some engineering works, but then at the same time you're also doing some interior refitting, for example, that's a separate project and you don't have any choice about this yard you're going to. It's predetermined so you still have to work with that yard. So not necessarily does the project team in certain aspects have any choice about where it's going to end up.

### **Martin**

Here's a curved ball question on SMS. I think it's going to be quite fun. Can a designer impact the shipyard and the project management team? Is the designer the problem? Who's willing to say? Let's start with interior designers.

### **AJ**

I think they create an interesting dichotomy of what goes on; and I think that the interior designer necessarily has to speak with the owner, because that's how they really have an understanding of what the owner's looking for. But again, the project team leader on the owner's side needs to be the disciplinarian in the process, but the designers by nature of what they do, they create and they create on the run, and they usually don't get the GA until the contract is already signed so they have that complication. So yes, I think that the designers do have their challenges.

### **Martin**

But do they impact your role, and can they defeat the process of project management?

### **AJ**

It's one of the things that make getting up in the morning interesting. When you have to—it's a negotiation—they say what they'd like and you try to help them get there but yes, they have an impact on you. But I don't think it takes the train off the tracks.

### **Martin**

Unfortunately Andrea when invited to this panel isn't here. Barry, what's your comment on the design world?

### **Barry**

I wonder why. Interior designers. Well it's like everything else. There are good and bad interior designers, some are very good and creative, I think the problem originates from the fact that they work—to them it's an art form, we're talking about a very scientific process and trying to integrate these amorphous art concepts into a scientific process and it's very difficult. I think you have to work very hard with interior designers who see the whole process as being iterative rather than being specified. I mean we'd like to think we have a contract specification for example, and a GA and all that stuff. The interior designer doesn't quite see it that way. He will have a visual pack and this could be here, or there, or somewhere else. Which of course to the shipyard is all very good news because it can mean VTCs and changes but a designer can impact directly on a project but I think they need to be managed the same as any other adviser. The difficulty you can have is that they do try to circumvent the process by going directly to the owner, but providing the owner agrees whatever the interior designer is wanting him to do, agrees his changes, and that is relayed back down to the project manager as a change order to the contract, there's no problem. I mean if the owner wants to change the boat and have it gold plated half way through then as long as he's prepared to pay for it and he realises the ramifications in cost and delivery fine. But it must be a change order. The trouble is a lot of these things come through from the interior designers that are not change orders and the owner doesn't even realise they're going to cost him more money. You know, do you want a blue one or a red one? The owner says I think I prefer a red one. He hasn't been told the red one costs twice as much as the blue one. Yes, they can impact on it.

#### **Martin**

Any more comments from the panel? Enrico, please.

#### **Enrico**

I would like to introduce a slightly different topic since I think we're going— interesting questions of course—but I think this panel and this forum is about a little bit more technical aspects of project management so I would like to launch a new reflection on the technical tools that are available to project management in modern shipyard running and management. I'm thinking of integrated ERP solutions, software solutions, that combine financial control and planning aspects with resource allocation and management. And specifically quality management system based on ISO 9001 —that defined a set flow of project management processes and procedures and introduced control and verification at each step along the way. Since we are involved in this kind of new direction, I would like to have the opinion of fellow panellists and anybody in the audience on this particular topic, because talking of project managers and their qualifications is all fine and dandy but we have to do a job and we have a lot of tools available for this. And do we implement them? How do we do that? And there's a lot of interesting topics.

#### **Martin**

AJ, what are the tools of your trade as a project manager

#### **AJ**

Well we have a 12lb sledge hammer and we have a smaller 16oz hammer, we've got an adjustable wrench and a set of jewel screws. You know I like the ISO concept. We're an ISM company, we handle peoples' money also so we have controls that

we've established and Eric in our team has been working towards dragging me screeching across the floor towards making the company ISO so I think from every part of what we would do I believe it would be a good process from the shipyards' and from the consultants side.

**Martin**

Nick, what are you using?

**Nick**

Softwarewise just MS project. Not particularly sophisticated but working reasonably well. ISO does seem to me like a good direction to go in, particularly for integration with the shipyard systems. One of the comments I'd make about project management in general and the qualifications available in the industry is that an awful lot of them have come out of IT industries out of defence projects and out of commercial ship building and many of those things simply have very little application when it comes to the yacht world. I mean sure, all the elements are involved but basically don't come into the question of design and the importance and significance of the owners' obligations. But I think further formalism is undoubtedly in the future.

**Barry**

Yes, I agree. All our companies are ISO and all the rest of it. So I think that's an essential, in terms of the quality issue risk, qualification for project management and everything else. In terms of tools, we write our own programmes, there are loads of them and we have the ones that are best suited for us. We want easy ones because we're all pretty daft at the end of the day so we want everything very simple. And again it's directly related to the size of the project. Sometimes you'll get a very good yard and there's no reason to use your own stuff, you can use the yard's stuff if it's good. And I think that's a two way street. The difficulty comes down on to the smaller projects I think. Because it's the old lemon—garbage in and garbage out. If you don't have someone there full time to register every single change and node point as it happens then it actually invalidates the information you're getting out. And that, when you get up to about 80metres for example, you can say you have a full time team and you can have all this stuff. When you're down in the 45metres then it's possibly a bit difficult because the owner doesn't want the extra cost of all this burden on him.

**Martin**

Any comments from the floor? Enrico, the software you're running with, and the shipyard, is that available to the project manager that comes in or is it something that you're running independently?

**Enrico**

The software I was talking about is available to the shipyard personnel only.

**Martin**

Not to the project manager for the owner?

**Enrico**

No because it is linked to our invoicing and the accounting software and it's an internal software solution that allows us to run the project through. All the material from the costing process at the beginning into the running of the project resources, human resources and materials and into the actual invoicing.

**Martin**

And is it a time saving exercise primarily, or just a management process?

**Enrico**

Since you do have to keep track of everything, it does help you a lot to have everything in there. And it does rely on a library of pre set values that we have in there. So as you build your experience it gets progressively easier. I think this is especially true in the repair industry where we do company wide 2,500 projects a year. So against a shipbuilding yard that does one or two every year. It makes a difference.

**Martin**

Any more comments before we break for lunch?

We'll be back at 2.30 for a flock of lawyers, or a coop of lawyers, as we're going to call them, this is all wonderful advice they're going to give you free of charge.

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