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START AUDIO

Interviewer 1: I want to ask you about your experience with using asset registers. The research project involves interviews with stakeholders using assets registers with different roles and from different companies. The purpose here is to try to understand the role played by asset registers in the maintenance optimisation and enhancement process. In particular, this research will explore asset register quality, challenges and production. Our research is also interested in the use of digital software technologies for supporting asset register production and use. In part, this research may help the University of Salford (and potentially partner organisations) identify opportunities to develop technologies, techniques or tools to help organisations and support their software development processes. I want to ask you the following questions and tape record your answers. I do plan to publish interview transcripts and extracts. Can I switch on the recorder?

Benoit: Yes

Interviewer 1: Could you briefly describe your current role?

Benoit: Yes. So I am currently working for SBM offshore for the entity SBM operations. We are taking care of the fleet we currently operate around the world. But my division is related to the asset integrity department. And my team is related to the

maintenance team. Actually there are two profiles like me. There is my profile with developing new CMMS or new project for clients. Developing new CMMS from scratch to deliver to clients or to our offshore team who will operate the unit and do the maintenance either preventive or operative. There is another guy with the same profile as mine. He is taking care of updating the fleet specifically. He is aligning with the same standards we developed stuff like. And also making changing based on request from the crews.

Interviewer 1: Could you say more about the fleet that you are responsible for?

Benoit: I am not responsible of any fleet. [Laughs]. Because as soon as I deliver CMMS, there is a foreman with the shore base on site. So the CMMS is delivered to the maintenance corner on site, to the unit manager, as well as the offshore team taking care of the unit.

Interviewer 1: What asset are you working on at the moment?

Benoit: So for the moment, I am working with [Senior Consultant at Add Energy] and Add Energy on developing the CMMS unit for Exxon in Guyana. The previous project was the same for Exxon. But the previous project was with Exxon and I am expecting to have the next project with Exxon again. Let's see. But I had also the opportunity to start 6 or 7 years ago with two twins FPSO's for [UK-based oilfield service provider] in Brazil.

Interviewer 1: Can you give me any kind of sense of sort of the size or value of the assets that you are dealing with?

Benoit: Sure. So the two [UK-based oilfield service provider] projects were 36,000 tags into the tag register. So those were generation 3 FPSO. So, I can't remember how big it was, maybe 25,000 tons [pauses] no must be more [pauses] something like this I think. While the first project with Exxon

was generation 2 with 20,000 tags. We need to take into consideration that we are not, in our SBM offshore process at least, taking into consideration to include all the equipment, all the items let us say even, that are installed under FPSO. We are still tagging a lot. But those statistics are 30,000 for generation and 20,000 for generation 2 FPSO. We are just including everything except pipes, cables, and soft tags. So basically everything which can be maintained physically, replaced and purchased as well. But for those specific equipment like cables and soft and pipes, we used to create maybe [one demis] one half in our CMMS. Because all the maintenance is performed outside the CMMS with different indicated tools or specific tools.

Interviewer 1: Do you have a sense of the value of the asset itself? How much would it cost to replace or run or something like that?

Benoit: I have no ideas. [Laughs].

Interviewer 1: So you talked about the CMMS. What's the CMMS used for?

Benoit: It is the tools we use. Not even only in the oil and gas, but to manage all maintenance all the supply chain as well. I think this is all what we are using today. Tomorrow we will be moving be to [inaudible] for the whole company. But today the tool [Marine Asset Management Software] that we are using is only use for maintenance, preventive, corrective, and spare parts as well off course. And purchasing for replacing of equipment, consumables, chemical, or whatever services as well.

Interviewer 1: Could you say something about the quality of the asset register as well? The asset register goes into the CMMS. Is that right?

Benoit: Yes.

Interviewer 1: So how important is it for you to have a good quality asset register?

Benoit: Ah! It is the whole story of my life. [Laughs]. And since even 10 years. Well, we like to have good quality it is really important. So we spend a lot of money on this. We except to get more and more digital data in the future within our company and from our vendors as well. Today it might be strange for you to hear that. There are things that we are doing completely manually, printing PNIDs drawings and stuff. Getting data from pdf to excel or tools. Because our process today, and I think it will continue like this, is based on PNID and drawings and layouts. In this way the CMMS will reflect what is installed. So we spend a lot of time building the asset register with many information coming from different documents and data bases. To me it is really key information, even for the guys operating the units and the maintaining it. The tag number is really central data for everything.

Interviewer 1: What happens if the asset register is not of high quality? What kind of problems do you and your clients end up with?

Benoit: if we talk only about asset register issue, wrong information [pauses] if we take the worst case scenario, it might be that we miss one equipment which might lead to non-maintenance on this equipment. And if it failing it may lead to fatalities. That is the worst case scenario. Other scenarios which are more common, if we miss an equipment it is not a big issue or having wrong data. For these cases we have the guy supporting the fleet to the guys supporting the unit onshore and offshore, can raise change request to Monaco. So they can update it.

Interviewer 1: I hope you never had a case of fatality. But have you experienced any production shortages?

Benoit: yes we do. But it is not because of the asset register. Failing with issue, it was maybe due to an equipment not tagged by engineering, not present on drawings. So it was not included in the CMMS. I think like everybody we learn from our mistakes. And sometimes we have specific requests from our clients. Or sometimes we have issues offshore which leads to adding new tags in our fleet to perform maintenance.

Interviewer 1: what is your experience with working with software in this phase? I think you know that Add Energy is starting to roll out new software to help with creating these asset tag registers. Could you describe your from your point of your experience on that?

Benoit: Yes sure. Since I worked with [Senior Consultant at Add Energy] as [YYY] and as Add Energy, I know both tools that I have been using so far which are the build-me tool from plant asset management and AssetC from Add Energy. I think having a tool [pauses] because we are working with other contactors, we were promised a tool but then at the end there was no tool. So I can explain the difference of having a tool or not a tool. For me it is really great having a tool to build a CMMS. Because it is like the way we were uploading data in our tool directly but separately to build everything at one place. It is accessible by anyone at the team or even anyone at SBM if required. Think it is feasible. And to show the progress to anyone who wants to see the progress. If the management is asking for data or display we can. That is more for the progress. Having a tool as well is better because it consists of having the data in one place. And to add attributes or data to same set of data. When we move on to developing the criticality assessment or the maintenance plan, having everything at one place and accessible at one place I think is really key. Because when we work only with excel, we use to develop batch by batch for example. So they deliver to us

batch one with so many systems, batch 1, batch 2, etcetera. And at the end you have to combine everything. And then you might find issues like duplicates. When it is in a tool you can't have duplicates. It is really the difference in working with excel and a separate file against a database which can only be more reliable. I would add that a tool is always good to have to check for the QA review, the approval. Because we know who has changed it the last time we can put comments. In excel, you still can but it is not the same way.

Interviewer 1: Can you quantify the value of that difference to you as an organization? Having a tool versus not having a tool.

Benoit: I was not involved with the contractor who was not using a tool. So I cannot tell really exactly. We time we spare with a tool will be the time used to QA. It will be time, like I said, used to concatenate excel files and ordering the columns. I really don't know. I would be minimum 10% of the time of the project. Minimum.

Interviewer 1: Roughly what is the duration of these projects and how many people are involved?

Benoit: It is also a good question. It is 1 maintenance project engineer. And there is spare parts coordinator, taking care of purchasing the spare parts and liking them to the tags I create. That is from the SBM point of view for the CMMS. And then obviously I am working with the contractor for building everything.

Interviewer 1: I think you said you weren't involved in the contracts. But do you have a sense of value of these contracts?

Benoit: Yes. I have a rough estimate. Because I think that number is never known by anyone except the CEO maybe. I think it is around 1 billion dollars for the full unit.

Interviewer 1: So you are saying to buy the FPSO is 1 billion?

Benoit: Yes. The full scope of the unit. When we sell the unit to one client for example.

Interviewer 1: I was also asking about the asset register. The contract to produce that.

Benoit: For the CMMS, it is really depending on the number of tags and on the level of compliance with the project based on our standard. I need to have a look at my files. [Pauses]. I will not give the exact number. [Pauses].

Observer: Did you want to know what the contract between Add Energy and SBM was? Or are you talking about the full costs for SBM to develop the asset register?

Interviewer 1: Well I realized all this is commercially sensitive information. But I am just trying to get an idea of the value of asset register to SBM. It may be that the vast majority of that is the amount paid for Add Energy to do the contract. But it may be for various reasons it is worth much more than that. You know as I said, I am not asking about a specific contract between two parties. But just to get a sense, if it is a small one it is around that much and if it is a big one it is around that amount. This would be very useful to us. Part of this is trying to understand the value of these elements.

Benoit: Maybe what I can do is provide you with a ratio. The first project with Exxon which was 20,000 tags and this one which is a bit more, so you can get a better idea maybe. Because the current project Liza Unity with Add Energy, we placed an order a bit less than $400,000 USD. Correctly if I am wrong [Senior Consultant at Add Energy].

Observer: That is right. That involves everything rather than just the asset register. For just the asset register element I would suggest that is approximately a $150,000 USD.

Benoit: and that is only for Add Energy to develop. And then on my side I have tagged 700 hours of my time to review and upload.

Interviewer 1: Thank you both, that was interesting. Is there anything else I should have asked you on asset registers form your point of view?

Benoit: Well. Just thinking. I don't know.

Interviewer 1: I am conscious of the time.

Benoit: if you need 10 more minutes it is fine. I don't have any meeting right after. If you have other questions that might be critical to you just ask them.

Interviewer 1: I was going to push my luck and see if maybe once we have done a bit of more work on the study we might just come back to you. And see if there is anything else you can help us with. But for today, you helped us understand from your point of view, what the tag register is used for and the importance of it. We learned about the mechanics of that from your point of view. Is there anything else we should talk about form the view of the software? You eloquently explained the different with having a tool and not. But did we miss anything in there do you think?

Benoit: maybe I missed the chance to talk about the difference between the tools. And what is good for a tool and what is less good for another tool. Are you interested?

Interviewer 1: Yes sure. Some people would say one of the things in AssetC is visualizing the hierarchy of the tags. Did you find that useful?

Benoit: Yes. But I used from that from the [ZZZ] tool by [UK-based oilfield service provider]. And our CMMS is showing the hierarchy. So I think it is key for any tool of building the asset registers to have a view on the hierarchy.

Interviewer 1: What else do you think is essential?

Benoit: To me what was good in [ZZZ] tool, which seems not to be the case in AssetC, including all the activities within the same tool. For the criticality assessment for example it is another tool, which might be connected later, but today it is not the case. I think having a tool for all the activities from zero to all the CMMS, not only the tag register but also the maintenance plan the criticality and all the data coming with these activities, and the classification of tags well. And why not, the scheduling of calls. I never saw that before, but I think it would be better to have this tool. Like if it would be our CMMS tool at the end.

Observer: I agree with you Benoit. The better a build tool could mirror all the functions of the actual operation tool. If you could have all those functions in a build tool that could create the data that you need. Then you have a very powerful tool and it could be useful to any company. And as mentioned the tool that is used back at [UK-based oilfield service provider] had lots of modules. So instead of going to a different tool here and transferring your data into the other tool, everything just stayed were it was. And you were able to conduct different elements of work at the same time.

Interviewer 1: Why would it be useful to duplicate this functionality in the build tool if it already exists in the CMMS tool?

Observer: I don’t think any CMMS tool, on the operation side, has a build function. They have a limited build function. So as Benoit mentioned, if out in the field they discovered there is a piece of equipment out here that hasn’t been tagged previously and captured in the CMMS, then the upgrade team will add a tag here, a tag there an d add information to it. But the build tools primary function would be to do this on mass.

Interviewer 1: Would the idea be that that data will be moved to the CMMS tool when you go operational sort of thing?

Observer: Yes. So it is almost like a build holding area and you would then deliver it to the client. And it would then be bespoke for their CMMS system. Talking about that, and I am not sure Benoit is aware of it, the Build-me tool that he was referring to, and he also referred to [UK-based oilfield service provider] and [YYY] was a consultancy within [UK-based oilfield service provider]. So there was a move to start marketing build-me as a CMMS holding tool as well. So if a client wanted to take full export of their CMMS, strip it out, use [ZZZ software tool] as interim CMMS system while they did upgrade, that were a facility that they were looking to develop. Then they could do the upgrades in Build-me and make the changes that are requested by the client, and then deliver all the updates data back to the CMMS. It may be because they got new equipment on board. It could be that they wanted something of data cleansing exercise.

Interviewer 1: That is interesting. Thank you so much. We will want some personal details from you. What is your name?

Respondent: Benoit Pesson

Interviewer 1: What is your job title?

Respondent: Maintenance Project Engineer

Interviewer 1: How long have been working in SBM offshore?

Respondent: 6 years

Interviewer: How long have you been working in the software industry?

Respondent: 9 years now.

END AUDIO