**[HVT][WS-03] Requirement Management-20250429\_094013-Meeting Recording**

0:24  
OK so first of all the requirements for system part are stored indoors.

0:34  
They are group on different system OK and also they have attached validation item for each requirement.

1:25  
OK, so when a new function is it's initiative, there's a framing meeting.

1:32  
They present the context of the of the function they make on the second one evolution impact in the system, system architect architecture.

1:52  
And then they start to write the system requirements.

1:59  
OK, first of all, they they make it, they make them in draft doors and then on the next meeting on the system design review free, they freeze requirements and then they pass it to they pass them to the software team which analyze them and decompose them to software requirements.

2:34  
And after that they build the software architectural design and the the model perform validation and deliver the come on that.

2:49  
Now in this area, OK, you are saying you are starting with new functions creation, right?

3:00  
So for any new function, how do you define the product requirements?

3:06  
For example, lets say you have some function introduced newly, right?

3:13  
So the high level business requirement, OK, so the requirement of this function is for X1 purpose or whatever, right?

3:25  
So then you will go to the next level like what are the different systems are going to include in that particular product, right?

3:33  
So your hardware when your software comes and all those things.

3:36  
So at the high level, how you write the requirements from the stakeholder side, we call it as a business requirement or stakeholder requirement.

3:57  
Maybe I can explain Philip speaking.

3:59  
I'm a combustion system function leader.

4:05  
So I'm working on system side with an architect.

4:09  
So I'm not the architect, but I I'm working with an system architect and actually the the stakeholder requirements are gathered by the architect by each system architect and they're stored are written also indoors in a specific system technical requirement side in from which I develop the design system requirements.

4:36  
So the architect is, is actually the, the guy who who gathers the, the needs, the the stakeholder needs, say emissions needs or performance needs or I don't know, regulation needs, whatever.

4:54  
And, and he stores them in as high level requirements in, in the system side.

5:05  
And we the the the function leaders take them and this the the, the develop the, the design requirements from from those high level requirements.

5:18  
But actually a new function is born due to high level need an STR system technical requirement.

5:28  
This is what OK.

5:34  
So thanks Philip.

5:35  
And I think that really helps.

5:38  
Now if it is possible for you, can you please show the system to us maybe if you have access to door, is it possible for us to you know, to see how the stakeholder requirements are managed?

5:55  
Because the doors has good capability to manage the requirements, right.

6:00  
So in that case, if you can show us the quick glimpse that that will be helpful actually.

6:09  
Well on combustion side, we don't have this the best example what we can look in in some other system.

6:19  
Yeah.

6:20  
So, so Stefanie, if you want to present, I see you have here exactly the combustion perimeter.

6:31  
So what you're looking at what what you're looking at is the SDD, the design document, the design system design document, which contains the design requirements developed by by us, by me and my colleagues as the combustion leaders.

6:49  
But the, the architect stores the high level requirements in in a different file.

6:55  
Maybe I can directly go indoors and and yeah, but it will take some time.

7:03  
Let me yeah, we know those classic takes some time to open it will it will open in a few few seconds and I will share my screen briefly.

7:35  
OK.

7:36  
So till the time you you are opening that our question is so all those requirements are directly written in the doors or you are putting it into the excel then it is imported to the doors.

7:57  
If you mean about high level requirements, take all the requirements those are not entirely indoors.

8:03  
As you can see in this image we have cross level, vehicle level and then system level mainly vehicle level requirements are not indoors.

8:16  
So, yeah, those are exchanged via email or some Excel files or and the the architect is it's gathering them somehow.

8:28  
And then he states them, he writes them in the system level side on, on each system, on each perimeter as a, as a high level requirements.

8:41  
So yeah, I, I will try to to share the screen for a moment if you allow me.

8:50  
Is it OK if I take the screen?

8:53  
Yes, I will need to keep Yeah.

8:56  
So here, please tell me when you see it.

9:01  
Yes, OK.

9:02  
So here, yeah, here we have the the doors database, the horse doors database, the cross level, vehicle level and system level on this side.

9:11  
On vehicle level side, yes, we have let's say for customer performance.

9:15  
So these are the the stakeholder requirements.

9:18  
Some of them let's say I will on OBD side we have.

9:25  
So this is a good example that we have vehicle requirements on OBD.

9:31  
Let's check OBD €6, OK.

9:37  
And here we can find some some vehicle requirements to to come to, to take into account on each system.

9:48  
So this is on vehicle side.

9:50  
But on system side we need to take them.

9:54  
I will take my example on combustion side.

9:57  
And yeah, I'm working on spark combustion injection only.

10:00  
So no diesel and diesel side.

10:02  
This is on just pain.

10:07  
And here we have 4 chapters for the design requirements.

10:11  
And here we have the STR, the system technical requirements.

10:16  
This document, it's, it's honoured by by directly by the architect.

10:23  
And these 4, these 4 documents, the design documents are, are all our owner by, by the PFS by the function leaders.

10:36  
So if I go here in the STR, this is how it looks.

10:44  
And we have say well on, on on combustion side, it's not the best example for STR because mainly from long time ago we don't manage to to keep this up to date.

11:11  
But how can maybe to give you an example?

11:24  
Yeah.

11:25  
So this is a high level requirement function to reduce the fuel deposit efficiency on piston.

11:30  
OK.

11:33  
And this should be linked with a design requirement for the software where in this case for hardware actually because we speak some about some deposit on on piston.

11:45  
So it it's mainly linked with the with the hardware with the piston rings and so on.

11:51  
But yeah, then if we go in the in the design requirements here, it's also what Stefan was was sharing in, in his presentation.

12:11  
Mainly we take we take some, I will take one one of these requirements.

12:17  
And actually we have some links in PBS directly.

12:22  
It should be this requirement should be linked in to STR actually, but for in combustion perimeter.

12:29  
Well, as I said, it's not the best example to take.

12:32  
Maybe some other systems have better, better linkage between the stakeholder requirements and the system high level requirements and system design requirements.

12:43  
And then towards software, we have no link.

12:47  
You will find in this meeting that the link for with software requirements is done differently today.

12:56  
So here we link in PBS produ breakdown structure.

13:00  
And this one, if I'm opening it, it's directly the ECM software.

13:05  
So because this requirement is it's computed, let's say it's it acts in in the in the ECM software, in the engine control module software, OK.

13:19  
And we also have some links with the central diversity lexicon.

13:24  
Well, maybe I can open those as well just to so this is something we we it's a it, it's a weak point that we have, let's say because PBS as you can see, we have we have horse database, OK.

13:59  
And we also have, well, we work with Ampere database or colleagues in, in in France.

14:06  
And then we have different databases, different PBS.

14:10  
But PBS expresses the the same components, the same ECM engine, control module, software and the and the maybe in terms of central diversity lexicon, the same applications, criterias, regulation, power thing, list of platforms and so on.

14:33  
And since these are 2 separate databases, then the only possible link in between them between horse and umpire it's via I don't know Excel or extract some some type of extract from one database send via email between the architects.

14:53  
And you know, it's, it's not the the best way to to use.

15:02  
So now I have opened the both central diversity lexicon Mpbs.

15:06  
Now we can check here, let's say here Now you see this requirement is linked to 07 HR 12.

15:15  
So the engine, the 2 different pollution norms, well more 3 different engines and another specific attribute without starter, well, it's because it's BSG or whatever.

15:30  
So this is the link with the, the the the application scope.

15:35  
What what this requirement is, is targeted to work on with this end.

15:41  
Then we have also where this requirement is implemented, it's in the software engine control module, the software of the engine control module.

15:52  
So these are the out out links that we we will link.

15:56  
Usually the only out link could be the the str and the str should contain all these links.

16:05  
OK, so the str which reflects the new function to be created.

16:13  
And then in terms of in links, we have validation plan for each requirement.

16:20  
We have at least one validation line written to, to, to to validate the requirement.

16:27  
And it's a well, I need to to show you here indoors.

16:33  
So here we have for this design document, we have associated validation system validation document.

16:43  
I've just entered in this one here and sorry just to go in link direct 1491, it's this one.

16:56  
So this is this validation line.

17:02  
It's just to to prove that the requirement is well implemented and it's functionally in the in the software.

17:09  
And then, yeah, we have all the fields that we need including.

17:19  
Yeah, maybe I need to to modify the the view because we have different views here indoors.

17:25  
Let me use this one.

17:39  
I need to take one already finalized.

17:43  
Maybe it's better validation actual result for some of them are are on ongoing.

17:50  
Yeah, let's let's take this take this example.

17:53  
So for this one, OK, for this validation line, it is to be tested on Hill test bench.

18:03  
Well, these are the test condition that we, we must put the system in and the use case.

18:14  
And then this is already frozen because we have already the the validation proof specified here.

18:22  
These are some documents from from HIL team.

18:27  
They provide these documents and we only put them as validation naming.

18:34  
They, these are stored somewhere in in UPDM or I think in Silk for, for Hill.

18:42  
And this way we, we know that the this line of validation.

18:47  
Yeah.

18:48  
One question, whatever you are showing is just the name of the document or is it a link to the document?

18:55  
No, no, it's only a name.

18:56  
Only a name.

18:58  
Yeah, we will take this one.

19:00  
We will search for it in the in Silk database for the in this case, if we know, if you want to know all the details of this validation, you know, yes, because here we have 12, we have 3 different tests which were done for this validation line.

19:20  
And this validation line it's, it covers in this case only one requirement.

19:26  
This one, the combustion system shall take into account a specific split transaction adaptation, whatever.

19:32  
So this is the requirement.

19:34  
It is covered by the this validation line done by by done on on HIL.

19:41  
And we have this proof results proof validation results.

19:44  
OK.

19:45  
And that's why the life cycle status of the validation line is already frozen.

19:51  
So it's it's it's it's finished along with, of course with its requirement, which is freezed before that before the.

20:02  
And yeah, I took an example of of of legacy of something very old for which we just put.

20:10  
The system you know the system world its its new in in no new lets say its from 5 years ago say 7 years ago.

20:23  
But actually the software is way older yeah.

20:28  
So this is what I wanted to present.

20:32  
Maybe we can go on with discussion.

20:35  
I will let I have a few questions here if I can ask.

20:40  
So this validation module which you have created, I think you must have exported the content from SIL and in may I know the format in which you have exported or how you have imported this complete validation module indoors?

20:56  
Is there any format available or is it done manually one by one?

21:02  
No, actually this, this document is available in Silk in this case because it is HIL and doing the during the collaboration with the with the software validation team which actually develops this, this validation product.

21:24  
OK, they are giving me the the name of the file and I'm manually putting it in indoors.

21:31  
OK, one by one manually.

21:33  
OK, one by one manually, Yes, yes.

21:35  
And then finally I choose the frozen state because I know that all the all the details are are covered by this these validations.

21:44  
And for sure before, before freezing this validation line and before considering that everything was OK, I am about to check all the all the details inside these documents.

21:56  
So it's a manual job.

21:57  
Let's say it's not automatic in the in this case it OK, fine.

22:03  
And even the template for module containing edition action column that also you add it manually or there is any excel or anything available for column I am talking about.

22:18  
Yeah, this complete steps which you have mentioned like way to validate test conditions, all sort of things.

22:25  
It is everything done manually.

22:27  
OK, yes.

22:29  
And it's just to to cover.

22:31  
So we may put for, for one requirement, we we may create a set of validation lines, not only one, but finally the the target is to make sure that the requirement is fully covered, is fully covering all the use cases and all the use cases are finally validated with one or multiple validation lines.

22:54  
So here we are specifying only one use case, but I can maybe I can check.

23:09  
Yeah, we have a lot of examples, yes.

23:15  
But it is a cumbersome job because you have to add manually everything and then you also have to link it.

23:22  
And there is a chance that might be you manually.

23:25  
If you are doing it manually, you might miss something.

23:27  
So that is what I would like to understand here.

23:30  
So it is clear now me to me.

23:33  
Yeah.

23:33  
The links are done manually.

23:34  
The text, the the validation text is is written manually.

23:38  
It is presented into the validation team here.

23:41  
You see driveability team.

23:42  
So this is a tuning guy, Yes.

23:46  
Yeah.

23:46  
So and then expect also manually or discuss with with the guys with the validation team to to to recover the validation proof for each for each line.

24:01  
It's a job of of actually of list of leader engineering system, system engineering leader, which is the guy who who grabs all the validation proofs and then provide the the complete picture of system being validated to the to the expert leaders.

24:21  
Finally.

24:23  
Yeah, to to prove that the NF is working properly, the function is is working as intended entirely.

24:31  
Yeah, understood.

24:33  
And you also mentioned that the system level requirements were linked to software requirement module.

24:42  
So means if I am not wrong, I think the software requirements are managing TRM, right.

24:47  
So do we have anything specific to software in those also?

24:52  
No, no, actually indoors we have one system requirements if I am going here here system level and the last one is company level.

25:06  
We do not have software level here.

25:08  
Well, company level could be also software because the software can be considered as a component.

25:15  
But unfortunately we don't use doors for for such component.

25:19  
Such complex component is software because software.

25:23  
Well it is quite it is complex enough to not be traced by doors via doors.

25:32  
You know with a lot.

25:33  
But I think in one of the requirement you showed some sort of external link to something.

25:40  
So outlink, not Excel outlink.

25:42  
I mentioned to I think is it to the only Yeah, yeah, this one, this one is yeah.

25:53  
If I am clicking on this one reflects the the the spare part, which is the software of course.

25:58  
Yeah, the software of the of the engine control unit.

26:04  
So engine control link application software in ECM, this is where all the require.

26:10  
So if if I want to this is for trustability purpose.

26:13  
Actually if I want to to check OK what requirements are linked are are covered inside this component I have 14,000 0I have 14,000 links.

26:28  
No, no, sorry.

26:31  
Yeah, only hover 14,005 714 links on this component.

26:38  
Of course all these are requirements somehow from from a lot of systems and you can see system also vehicle level system level stop and 30, so stop and start air path combustion after treatment and so on.

26:55  
A lot of lot of of different requirements, but the the the trust.

27:05  
So the link between each requirement I will go in the requirements.

27:09  
So let's take this example for this requirement, the the split into software requirements, the decomposition into software requirements will will not be done indoors.

27:21  
Will not we cannot be fine indoors.

27:23  
It is is it is done in you see, yes, in in SBM today.

27:31  
Yeah, OK.

27:33  
SBM or TRM, sorry, the TRM is not there I believe SBM or software requirements.

27:42  
Jadi, yes, OK.

27:46  
Excel, I believe that second and confuse now.

27:59  
So we manage.

28:01  
Yeah, sorry, go ahead.

28:03  
We manage change request in in SBM and we manage new function also in SBM.

28:10  
But we, we control, we, we, we store the requirements, the system requirements indoors and the software requirements in PowerPoint presentations in in the Excel files only linked with these requirements with these links.

28:30  
OK.

28:30  
I will let Stefan to to continue presenting if it's OK for you Stefan.

28:38  
Yes, Yeah, I'm just a couple of questions Philip.

28:43  
Yes, OK.

28:45  
So you said you are managing system level requirements in DOAS.

28:52  
So when the software engineer is going to take the requirements or take the reference of the system requirements, how how he starts his work with he does he contact you or you know the next level of requirements you want to extract from doors or something and you export it or maybe you extract it from doors and provide to the software team members.

29:19  
Yes, they do.

29:20  
Yes we do also an extraction from doors targeted to or filtered by the function or by change request that we we target and then it's what you see here on the screen on software side.

29:34  
These requirements are presented during Cdr zero milestone.

29:41  
Let's say they are presented from system side towards algo towards software side and they take them into account, they, they think and they, they, they consume them and they split them, they divide them into software requirements, creating the software architectural design and and all the details linked to the software solution.

30:07  
Finally, because the system requirements only express the need, but no, no solution we we are expecting some solution from software to come to to cover the the the needs.

30:20  
OK, OK, So Steven, The thing is that the worst gives you input for software development.

30:29  
Yes.

30:30  
And you derive the software requirements in the Excel.

30:33  
I don't know, I mean you say or is it a SBM which for what is your so they there are some power points in those meetings.

30:45  
So the first one I have an example here.

30:51  
So in the first, in the first one, they will receive the software team will receive the requirements from the system team in this table which is filled when you after this column only on the system side it's filled.

31:11  
And then they decompose them and write the software requirements here in this table.

31:21  
OK, OK, So this is done in the PowerPoint, Yes.

31:26  
OK, OK, perfect.

31:34  
So that particular system requirement, there may be 3 or 4 different software requirements, right?

31:44  
It could be, it could be one to one, it could be one system requirements.

31:48  
Yeah, yeah, depends.

31:52  
OK, right.

31:54  
And so I will go ahead.

31:57  
But yeah, means I want to know like this Excel sheet, I can see or you can say, but is it this is it an export from DOORS or that also is maintained manually the input site?

32:11  
I am talking about input requirements and system requirements.

32:16  
It's done manually.

32:17  
Actually we can export from doors the the the text in a in a table in an Excel file.

32:22  
But we then we, we fill up this table, this template of of table manually each time.

32:29  
Yeah, it's understand that's how we do.

32:32  
Yeah, we only take part of those.

32:35  
But actually we also add, we attach the doors export in the in this PPT in this presentation.

32:42  
Just if we just for, for further information, if they need some further information in link with let's say application scope.

32:51  
We know from the beginning of of this template that which is the application scope for this change request.

32:58  
But then the application scope, it's also visible as you as you saw in indoors and it is visible in a specific column in in the doors export.

33:08  
Finally for each, each request, each requirement.

33:15  
No, thanks.

33:17  
Yes, I can get it.

33:18  
Yeah.

33:19  
And Philip, if I understand correctly, there is no reference to the software requirements right from system requirements Today we don't have a link towards software which software requirements respond to the need described by the system requirement.

33:39  
The only link is what we see on the screen here.

33:42  
Yeah, in this table today.

33:45  
This is something to be improved.

33:46  
So we we would like to have a good link in between these requirements.

33:58  
Yeah, definitely a traceability is must here because it becomes very difficult to understand which system requirement and software requirements are communicating with each other.

34:07  
So yeah, that we have noted down this point here I can offer some additional information on this topic.

34:15  
There is also another file that links software requirements with system requirements and also the Valsys which are our software component files.

34:23  
There are the validation plans that we have, but still sadly only in Excel.

34:29  
And another information where another part where we link software requirements or system requirements is the PDF.

34:36  
So the specifications we can associate software requirements and system requirements to subsystems in Simulink.

34:45  
So they exist as properties to subsystems.

34:48  
And then when we printed the PDF, it prints a table right after the image of the subsystem saying software requirement text has been implemented in this subsystem.

35:01  
But still that's where it ends and it's not a very good traceability.

35:09  
OK, good.

35:10  
And this is I understand is about your in house products, right, whatever you are developing.

35:18  
But maybe yes, let's say you are getting requirements from external customers, for example, you are working with now your tier one along with Reno, you will work with other OEMs as well going forward or maybe you you might have started working with them and if they give you the security requirements or the system requirement, is this the case today?

35:46  
I think Philip just mentioned this use case in the collaboration with General because they splitted the database between us and them.

35:56  
OK.

35:57  
And there is an import export.

36:02  
So when they need to give us some information on the requirement points, they will make an export on their side, they will email or doesn't matter how we get the file from them and then we import into this.

36:19  
Hello Alex Marte speaking.

36:21  
I am PFS on this 34 if I may intervene here.

36:26  
There is no process currently to receive customer or stakeholder requirements from.

36:33  
So like REKIF for example, OK to import requirements directly indoors and to have dedicated folders for stakeholder requirements.

36:47  
And also here what we are missing our customers now are let's say other systems from the vehicle or general requirements defined for a specific application like like I said from at the vehicle level, I think.

37:08  
But usually this kind of requirements now are traced through emails or in the VIA model discussion.

37:19  
It's in the technical discussions that we we have with our experts, but there is no process to have them imported in documents indoors and there is no review process for the stakeholder requirements.

37:32  
You know, we are missing this part for on, on the REKIF and requirements review between system level and stakeholder level.

37:41  
Yeah, Philip, you if you agree with me, but you know, this is what yes, what I have.

37:49  
Thank you.

37:50  
Thanks for yeah, for the details.

37:54  
Yeah, thanks Alex.

38:04  
OK.

38:05  
And Philip, by the way, are you managing any library requirements library in doors or I believe it is called as generic requirements something right.

38:18  
I am managing my my diagno my my design requirement files this year.

38:29  
So everything which is inside the combustion perimeter only, this is the, so each perfs, each function leader manages, he, it's his own or her own SDDS system design documents inside the, the, the system, it's his system or her system in which he works only.

38:55  
So as let's say in, in pure theory, we, we grab the, the requirements delivered or gathered by the architect by our architect and we decompose them to design requirements, design system requirements.

39:14  
And the, the job to to, to get all the the stakeholder needs is done by by architect, by system architect.

39:24  
OK Philip, I think Jadi pair mentioned about the library like the reusability functionality in case if you have certain generic requirements and if you want to utilise them across different projects so that you do not have to write it or manually you have to type it.

39:38  
So is there any feature of doors you are exploring or is there any way you are trying to achieve this reusability thing of the generic requirements in DOORS or self anywhere else Can I clear?

39:55  
Sorry, no, no.

39:57  
Well, maybe you can the question, OK, let us take an example.

40:02  
If you have certain 10 requirements which are common across different projects.

40:07  
So is there any way to is there any way to you reuse them across all the project without typing it or without writing it manually indoors?

40:17  
Is there any process defined for that or because otherwise you have to write the 10?

40:22  
Yeah, sorry.

40:22  
Go ahead.

40:23  
Currently we have an attribute for that which is application scope.

40:30  
So you can be able to to filter the core requirements.

40:35  
So the carryover requirements applicable between several projects based on application scope attribute.

40:45  
Now there is a issue here because at least I'm speaking about my system, there are, let's say values of the attribute.

41:01  
For example, if we are discussing about €6, in this case €6 is the deposition.

41:09  
Or if you have requirements written for €6 is just an example, but they are still applicable for €7.

41:23  
Each function owner needs to treat the application scope in.

41:30  
In the theoretical process you need to update the application scope.

41:36  
If this is not done each time you you you need to define a document with requirements, you will need to technically analyze them to see which is transversely applicable for the further projects.

41:52  
At least this is my.

41:54  
In my case, some of the requirements are still applicable on the let's say new projects and I'm not able based on the application scope which of the requirements are to be still used or not.

42:10  
So here what I was thinking about was maybe to have the possibility to create new documents with requirements for each new project started and not to keep them in only one document and counting only on the application scope.

42:36  
So basically each time when we are developing new projects, we may need to create new documents dedicated for the project with the requirements specific for that for that project and with the review process defined.

43:02  
Because now it's it's hard to to trace what are the still applicable requirements and not.

43:09  
But to to answer to your question, this is done currently based on application scope and then and in application scope as I have already presented the all the attributes are considered as out links to the central diversity lexicon.

43:31  
So that's the, the, let's say the universal attribute list that we all system use, all the systems are using to have a common language actually.

43:45  
So €6 e, it will be the same attribute for me and for Alex and for any other PFS on any other system.

43:55  
And if I'm specifying in application scope that I'm applying this requirement or for €6 e application then and it will be the same for everyone.

44:09  
And it's easy to to understand inter system.

44:13  
Let's say if I'm reading a requirement from other system looking at application scope, I can easily understand the the application of it.

44:23  
But finally, Alex, the your proposal has some also some disadvantages because you know, on system side we are developing techno bricks and the projects may want to take them or may not want to take them in in their project.

44:41  
Actually providing techno bricks with a modular software that we know we have you know, because because the software is modular, then also the system needs to be modular and the the project, various projects will will grab the the techno bricks they need which are already validated.

45:05  
Yeah.

45:05  
Idea is you may start the project.

45:08  
What you, you, you say is that you may start the project, take core of the requirements and move it, move them in a specific document and after that developing requirements specific for that project, which may for the feature be taken for other projects.

45:28  
And like that we still need the common document you, you this, this is your point, Philip.

45:38  
Then all the documents, the, the specific documents will have specific requirements IDs, right?

45:45  
And in software terms of software traceability, our colleagues from algo side, they already delivered the software solution for let's say the first requirement in this line, taking this requirement ID.

46:03  
And then if I am creating a new one specifically for for a new project which states the same because I want to recycle this requirement, then I will have to use exactly the same idea, right?

46:19  
Yeah.

46:19  
So I will have a the same idea in 2 different design documents.

46:23  
This is, I think this will be a trouble.

46:27  
It won't be unique anymore.

46:33  
And if I found find the let's say dot an issue in the text of the requirement I'm modifying on one design document and I need to modify it the same way in all the documents containing this requirement.

46:50  
So, yeah, I agree, maybe this is not the best solution or maybe we need to include some additional attributes to trace them or maybe to rethink a bit how we are using the application scope.

47:05  
Yeah, for the incrementing so or let's say for the requirements that are traced through several projects, it's just an example, €7, €60 Bis in my case is B0, B4, B0, P2.

47:24  
Yeah, yeah.

47:27  
We also use intensively the comments section to add the to to to specify the new function which he which is which is affected by this requirement which keeps stores this requirement and the change request which is developed to to answer this need and some details if needed in in this comments section only.

47:53  
So this is also free text that we are manually adding in the indoors.

48:09  
OK, Yeah, I think JD we can.

48:17  
Yeah.

48:17  
Can I assist you, JD?

48:32  
He want to take a coffee one minute.

48:36  
Yeah.

48:37  
Let's wait him to.

49:43  
Also Philip, may I know the version of those you are using?

49:53  
Sorry can you repeat please?

49:55  
Would like to know the version.

49:56  
Those version, the version which version?

50:02  
I don't know why.

50:03  
Can I check that?

50:23  
Honestly, I don't know.

50:24  
I don't know how to respond to this question.

50:26  
I don't know how to.

50:27  
It's OK, It's OK.

50:28  
It's fine.

50:28  
I will.

50:29  
I will find it out Always.

50:32  
So 9.7.

50:37  
OK.

50:38  
Thank you.

51:34  
I hope things.

53:21  
Yeah, yeah, no, I'm back.

53:27  
Do you want to ask me something?

53:31  
No, nothing.

53:32  
We have got the answer from Horse.

53:36  
So Horse team, I think.

53:38  
Yeah, we were waiting for you to go ahead, you know, for the questions.

53:41  
So nothing else.

53:42  
In the meantime, I'm opening that presentation.

53:46  
Ohh.

53:46  
OK, not a problem.

53:50  
So, so Philip and Alexa, actually I heard that you are writing the requirements manually.

54:00  
So are you following any kind of requirements authoring or requirement writing standard kind of in Kozhi or IRAB, something like how to write the requirement, how to elicit the requirement or do you have your internal standard to write the requirements?

54:21  
Yes, there is an internal process.

54:23  
It's a checklist for the PFS or checklist for the the way of writing requirements in which there is defined, which are the mandatory attributes that needs to be filled, how they needs to be filled.

54:42  
What we are missing a bit now and we are working on it is to have transversal way between systems to try to write the requirements in the same approach in terms of and I know atomic requirements, functional versus non functional requirements.

55:03  
Current proposal is to go maybe in the way of writing requirements in pseudo code manner.

55:12  
But yeah, more or less it's up to each system to define the, let's say the form of the requirement now, but the attributes are mandatory, which is which The list of the attributes that needs to be filled are are mandatory.

55:34  
And we have a process for that.

55:36  
Yeah, OK.

55:38  
And you said that going forward you would like to go for this writing automatic requirements or functional long function and that kind of way forward, right.

55:47  
Yes, yes, there is a process on going with, it's a workshop between system software and validation teams.

55:58  
Idea is to see altogether which kind of information we need to treat at system level in order to have everything in place for software implementation and for validation also PFS or system level.

56:18  
We are writing the validation plan which I think Philip already shared with you.

56:27  
Yes.

56:27  
So in that case, validation plan currently is a discussion with our colleagues from validation to keep again a format on the validation plan, something like preconditions, success criteria, list of signals or system level that needs to be defined and things like that.

56:51  
So more or less to have a transversal process between systems and the way of writing requirements and policies, which can help us to automize, automatize a bit the use case definitions, the validation plan definitions and to be more atomic system level in writing the requirements.

57:19  
This process for how to write requirements is not really clear now what is defined now it's, uh, what are the mandatory attributes then that that needs to be filled?

57:33  
So this is this we, we have already.

57:39  
Yeah, OK, we can share that with you if you want.

57:43  
So the checklist for attributes and how they need to be filled, correct?

57:50  
Yeah.

57:50  
And that will definitely help us.

57:53  
Yeah.

57:54  
If you can share it, I think that will use it.

57:57  
Yeah, it's something similar to a spice, but is splitted between several processes.

58:06  
So for the future, the intention is to have transversal process to be shared between systems and to try to to have altogether the same approach in the way of writing requirements.

58:27  
OK, I think you can see you can achieve this through templates also in case if you can create some templates, standard templates with all sort of attributes and the information required.

58:38  
But in case if you have created any templates and doors, we would like to see that also.

58:44  
Yes, we are working on it and we can share them with you and if you are let's say available to help us to define and improve this templates.

58:56  
Yeah, it it will help us.

59:00  
Yeah, yeah, yeah.

59:03  
OK.

59:03  
So I will note that and I will try to maybe share with Stefan this documents.

59:11  
Yeah, checklist PFS and what we have for writing requirements currently.

59:18  
OK, great.

59:19  
Next.

59:19  
Thank you.

59:24  
And Alex, just to make you aware that whatever the tools we have, you know, identified for the benchmarking, this tool all have the capability to, you know, or maybe they come up with their out of the box templates or automotive espice and you can customise it as per your needs very easily.

59:53  
Can you give me some examples?

59:54  
I don't know exactly what do you mean.

59:56  
So it's a list of attributes.

59:59  
So or what exactly what kind of templates?

1:00:06  
Pranav, can you give me some examples?

1:00:08  
Yeah, I mean, so the tools we are accessing it is code Beamer, polarity and TRM.

1:00:13  
OK, now let's say take an example of code Beamer.

1:00:16  
So when we create a project OK there are some inbuilt templates available like a spice template.

1:00:22  
Is there safety template which comprises top I so 26262 we required configurations.

1:00:31  
So when we configure any project with such a templates, you don't have to worry about the structure, OK it all it provides you all the structure required attribute list it provides.

1:00:42  
You just have to the engineer just have to utilise them based on their requirements or needs.

1:00:49  
So these are the inbuilt template which comes along with the tools means.

1:00:54  
I have worked on doors also.

1:00:56  
So I am aware that in doors we have to create certain standard templates on our own.

1:01:00  
We have to do all sort of a manual works.

1:01:03  
But this in this new tools I think this templates are already there.

1:01:07  
That is what we are referring here where Hera analysis sort of configurations are the SN configurations.

1:01:15  
That's the lots of things are there in template itself.

1:01:18  
We don't have to create anything on our own and they are standard, standard templates.

1:01:24  
Yeah.

1:01:24  
And you can customise it as per your need as well.

1:01:27  
Yes, if you want to add custom attributes, any mandatory attributes as per your business process, organization decision, definitely, those are really flexible.

1:01:38  
Those templates are really flexible to make modified.

1:01:43  
Yes, we we will need that in terms of templates, but we will need as well to explain what is the goal of each attribute and the values of the attribute, how to be used.

1:01:56  
Yeah.

1:01:58  
So, yeah, going ahead, actually, that's why I asked you to share your templates and attributes with us.

1:02:02  
So we will we will go through all the all those things, all those documents.

1:02:08  
And yeah, based on that, we will provide our observations that this is what is required or this is what is missing.

1:02:15  
And yeah, going ahead.

1:02:17  
And we will propose our observation and solution.

1:02:20  
We will mention it clearly that this is missing in this and this is how you can achieve it going ahead.

1:02:29  
OK, go by and clear now.

1:02:31  
Yeah.

1:02:36  
So what is to be highlighted in terms of attributes and we discussed before the application scope usage.

1:02:48  
So for us really important is how how we will treat further on the application scope and the comment section.

1:02:54  
Currently the application scope is used by each system to define technical definition for which the will be applicable or I know the portion regulation.

1:03:07  
There are several details there and for the comment section we are adding their the new function and the change request.

1:03:19  
I don't know if you sorry I was not here since the beginning.

1:03:23  
I don't know if you discuss the new function and the change request way of or the the goal of adding them here we are able to trace the details for the requirements through NF and change request information.

1:03:41  
Yeah, but each time when now when we need to understand the requirement, we we need to check the technical details behind NF behind changing request.

1:03:56  
So maybe further on when we will choose to use this kind of templates, we we may need to have dedicated discussion for the application scope and comment section with some examples.

1:04:10  
Yeah, yeah, yeah.

1:04:15  
OK, OK.

1:04:21  
So another question is do you exchange your requirements with your suppliers and how is it meets?

1:04:31  
Is it in the Excel format or those those suppliers are given access to your Oh Philip I can answer if you want to know if you are sharing requirements with supplier.

1:04:53  
Yes.

1:04:53  
Please answer if you on my side on combination side mainly no.

1:04:59  
So my system is an inter system that's a component power centre management.

1:05:09  
I'm sharing requirements with gearbox team and usually this is based on the application scope.

1:05:19  
So the process is to filter the requirements based on application scope, analyze them from technical point of view, export them in an excel file and we have a document format in excel with specific attributes and the specific section for review where we need to fill the supplier review and the OM review.

1:05:46  
So our review and there is a review process which is managed by the project leader.

1:05:53  
So the project leader is the moderator of the review.

1:05:58  
And once the requirements are shared through this Excel template, let's say we are starting a review by discussing each requirement and adding, adding comments in both sections for the supplier and for the OM when and where, when there are some gaps or technical analysis needed.

1:06:29  
So there it's a iterative review.

1:06:31  
We are discussing them and adding requirements and maybe updating requirements and things like that.

1:06:40  
But it is done through Excel.

1:06:42  
I don't, I don't know if on their side have reqif process to import them in another tool.

1:06:49  
But on our side, we are exporting them for doors and sharing them through Excel and following this review, review process, OK.

1:07:10  
But they're mainly the discussion is on the technical details, not on attributes and things like that, you know, So it's a functional part with technical details.

1:07:23  
And also there is the safety part and this functional part which is treated by our colleagues from from safety.

1:07:34  
And there as well there is the same same process Excel with the comments and the review and each time.

1:07:45  
Yeah, yeah, actually we would like means we have understood that you would do this exchange based on Excel sheet.

1:07:53  
We are trying to to find out if there is any gap like lets say if you want to share an excel sheet with the custom with the supplier, sorry, then supplier will also do the modifications based on his understanding and will share it back with his review to you.

1:08:09  
And again I think when you will go through that and will do required modification, then again you have to input it indoors, right.

1:08:19  
So basically, yes, yes, yeah, yes, yes.

1:08:22  
The complete exchange mechanism is an Excel sheet.

1:08:25  
So again, I mean it requires lots of manual efforts.

1:08:28  
So that's what we are trying to understand here, yes.

1:08:32  
So we are not performing the updates indoors, exporting again a list of requirements.

1:08:40  
So the core file is in Excel and once the review is received and for example, if there is a need for a requirement update, I am performing it in indoors.

1:08:53  
Yeah, in the to have the same information in Excel and Excel file and indoors.

1:09:03  
OK, Yeah, they're not importing back indoors.

1:09:06  
You are just doing the changes directly on those, correct?

1:09:09  
Yeah, yeah, yeah, yeah.

1:09:12  
OK, understood.

1:09:23  
Yeah, and endorse.

1:09:26  
Do you follow any kind of review or approval process between system level and software level?

1:09:38  
Yeah, means I have written some requirements for any product.

1:09:43  
Now I want to get it reviewed and approved from the concerned authority and release into the system or freeze those requirements, baseline those requirements.

1:09:55  
So is there any flow defined for that?

1:10:00  
Yes, for that we have the SCDR process.

1:10:06  
Can you repeat it?

1:10:06  
What is it?

1:10:08  
System component design, review SCDR process?

1:10:12  
OK, let's see.

1:10:17  
And through SCDR, So SCDR zero system is responsible to share the requirements with suppliers or software team.

1:10:28  
Yeah, software team is the main reviewer in this case.

1:10:35  
So there is a discussion between system and software on the requirements and it is considered that once the ACDR zero is passed, requirements can go from draft to submitted.

1:10:52  
So we have an attribute for let's say lifetime of the requirement.

1:11:00  
Yeah.

1:11:03  
And from ACDR one to 2, the requirement will go from submitted to approved.

1:11:13  
And once the implementation is done, we will set the requirements in frozen requirement set to frozen cannot be modified after.

1:11:23  
So there is a process for the life of the requirements based on SCDR process.

1:11:32  
OK.

1:11:33  
So is it automated in doors or is it a manual once you get update from the No, no, we are sharing the requirements in SCDR Zero.

1:11:46  
So this is a PowerPoint document that I saw that Philip shared with you.

1:11:53  
There is this official meeting between system software validation team and everyone involved in the implementation.

1:12:02  
Once the SDR zero it's passed, usually the PFS or the function owner needs to go indoors and update the requirements status.

1:12:12  
And this is done each time when SDR milestone is passed and same approaches for the validation, validation plan, we have a lifetime status update at each milestone for the validation plan as well.

1:12:38  
But is that is done manually, not automatically.

1:12:43  
OK, perfect.

1:12:45  
Yeah.

1:12:45  
And Shifan, on the software side, is it done manually only all reviews and supplier exchange all those things.

1:12:59  
Now can you repeat on software side?

1:13:01  
On software requirements you mean?

1:13:04  
Yeah, basically on the software side as well.

1:13:07  
You were talking about the system side, right on.

1:13:10  
On the software side as well.

1:13:12  
You are doing it in Excel and the approval process on software side.

1:13:17  
Maybe someone from software team can help us block going.

1:13:21  
It is, it is all manual.

1:13:22  
So writing requirements, reviews, exchange with supplier, everything is Excel.

1:13:33  
Sorry, can you go move in?

1:13:35  
Sorry if you could please repeat the question actually before I'm not sure I understood it well.

1:13:42  
OK.

1:13:43  
So Alex just explained us about the supplier, how you exchange the requirements with the supplier right in the form of Excel and then what it comes to them again and they update in the doors manually, OK.

1:13:59  
And again he explained about the review and approval process SCDR, right, that is done manually.

1:14:06  
So he was talking from the system requirement perspective.

1:14:10  
However, I want to understand is the same process followed for software side as well.

1:14:17  
Means if you are exchanging your doctor requirements with the supplier then how it happens?

1:14:23  
And for the approval review of the software requirements, is there any other process followed?

1:14:31  
OK, I think understand in interior would say yes it should be the same as system, just that we do not exchange so much with suppliers.

1:14:41  
System do so far as it's all about the implementation of the system.

1:14:45  
So translating the system requirements into software requirements and implementing them.

1:14:50  
So exchange with supplier does not happen so often.

1:14:56  
The only contact that we have with an external entity would be related to interfacing components.

1:15:04  
So that is when something is interfaced through the basic software provided by a supplier such as Bucher Continental, then yes, we have exchange in the form of the component review CR, the CRS files, I forgot the acronym, sorry.

1:15:25  
So there we discussed what is the functionality that the component should have in certain scenarios and how the interfacing should be done.

1:15:32  
So that is covered still by a system requirement that is then also applied as a software requirement.

1:15:41  
OK, good.

1:15:43  
And is there any internal process followed for approval and reprocess for software requirements?

1:15:56  
So the software requirements are how to say we do not have any rules in terms of first of all, how to write the software requirements here with lack completely in the guidelines, in the standards every at the moment all sorted requirements are very basically based on the judgment of each responsible for each function, the approval.

1:16:26  
There is no approval process at the moment.

1:16:28  
We write them, we present them and we implement them.

1:16:33  
So that is the Cdr one.

1:16:34  
We present the software requirements in the Cdr 2 implementation of software requirements.

1:16:40  
So at the moment they are, I would say they are what they are.

1:16:45  
We really lack standardization and quality here.

1:16:52  
The only approval, if it can be associated as an approval part, it's that the software requirements are presented during a Cdr one milestone and the, the, the PFS, the system side, the system team is also present there.

1:17:09  
And the software architect which finally approves the, the, the milestone, the, the yes.

1:17:17  
So the approval is based on the judgment of the software architect as well.

1:17:21  
So he says whether the software requirement is OK or not.

1:17:27  
And we as system owners, we judge the, the software requirement which specifies actually a software solution.

1:17:35  
We, we analyse that and we, we quantify if it's, it's, if it fits our need or not our, our system requirements, if it's covering all the cases that we imagine and and so on.

1:17:51  
So that if this is the, the validation of the, the requirement, this is how, how we used to do it for the software requirement.

1:18:05  
We just want to make sure that that software requirement which will be turned into the software solution itself is fully covering the, the need.

1:18:14  
That's OK.

1:18:21  
Yeah, got it.

1:18:23  
And OK, sorry Saritjit, is there any tool which tool you are utilising for capturing software requirements?

1:18:35  
Again, I have a doubt that's why I'm asking.

1:18:37  
No, no, it's manual level.

1:18:38  
If my Stephen explained, it's like OK really.

1:18:48  
But in one of the presentation I have seen that TRM is mentioned somewhere.

1:18:52  
So means means my understanding was that it was meant for software requirements.

1:18:58  
So where exactly it is used?

1:19:01  
It's not used anywhere, OK, right.

1:19:05  
I think they don't have TRM, you know, OK, don't have OK in architecture it was mentioned TRM.

1:19:10  
So that's why I was confused.

1:19:11  
OK, fine.

1:19:12  
Understood now.

1:19:17  
OK.

1:19:19  
And from the release requirements, release and obsolesence process, I would like to understand this if you are some, some of the requirements are absolute and no more no longer needed.

1:19:30  
So is there any process defined for that on the what?

1:19:34  
What side means system as well as software side?

1:19:45  
For software requirements process exists.

1:19:49  
OK, so but let's say one of the requirement is no longer valid or you're going to absolute it, then how do you communicate that this or maybe a new version of this requirement is coming up early ends absolute and?

1:20:10  
No one should use it.

1:20:11  
So how that communication is done?

1:20:19  
Yes, there is no really process define for that.

1:20:24  
So in case the requirement goes from, let's say frozen state to obsolete or from submitted or accepted to obsolete, usually this is done through meetings with, OK, with the people involved.

1:20:39  
Yeah, So there is a decision.

1:20:41  
We are, we saw a technical issue, we performed the analysis, we saw the reason behind it.

1:20:50  
And the conclusion is that there is a requirement which is no more applicable or needs to be updated somehow.

1:20:57  
If there isn't frozen state, for example, a new condition needs to be added.

1:21:01  
In that case, the current requirement in frozen state should be so updated to obsolete and the new requirement needs to be written to include the new condition.

1:21:18  
Yeah.

1:21:19  
But overall, there is no further information of other teams.

1:21:26  
Yeah.

1:21:26  
So everyone knows that through this meeting.

1:21:31  
OK.

1:21:33  
And even if the new requirement is coming up, which is, you know, released recently, that is also communicated to meetings I believe, right?

1:21:40  
Ohh.

1:21:41  
Can you repeat please?

1:21:42  
I I don't understand the first part of the question.

1:21:45  
Yeah.

1:21:46  
So for the release newly released requirements, OK as well it is communicated through the meetings only, right?

1:21:56  
Yes, usually each change request, so each group of requirements needs to we have a dedicated meeting.

1:22:07  
It's like a Sprint for software deliveries or change request deliveries at each model delivery.

1:22:16  
A model delivery happens once per 12 weeks.

1:22:21  
If I blog web please correct me.

1:22:24  
I can check now planning software.

1:22:31  
If you allow me, I can share my screen.

1:22:40  
So here each green cell it's an official software delivery MD 29.

1:22:53  
It's a model delivery 29, MD 3rd it's Model delivery 30.

1:22:58  
Between them we need to follow an official process for change request development.

1:23:05  
So for each model delivery, there is a discussion between a system project software.

1:23:13  
Mainly it's system architect, software architect and the project manager of the specific, let's say for the specific need and it is together approved which change request needs to be delivered at each MD, at each phase.

1:23:39  
Yeah.

1:23:39  
And for the preparation of the delivery, we have dedicated dedicated steps.

1:23:47  
Yeah.

1:23:48  
So for example, here there is a SCDR process, what I just told you that needs to be prepared for each delivery.

1:23:59  
And we have ACDR zero for model delivery 30 starts with if you say if you.

1:24:10  
So here there are from week 12 to week 29 and the preparation of ACDR zero takes 5.

1:24:19  
Usually it's 44 weeks.

1:24:21  
So here the technical, the details, the system architecture requirements need to be defined.

1:24:29  
Once they are defined, we are sharing system with system or sharing with the requirements and the system architecture.

1:24:39  
From that point that ACDR one, they are starting to prepare the software architecture and software requirements.

1:24:49  
And here between ACDR 2 and the Cdr 3, it's software implementation and the available at MD 30.

1:24:59  
Yeah.

1:25:00  
So this is the let's say the the planning for development for each if this is answering to your question.

1:25:17  
Yeah, nice.

1:25:18  
Thanks.

1:25:18  
Thanks for that information.

1:25:21  
However, my question was little bit different but I got that OK.

1:25:31  
And maybe in the context of the same, can you please elaborate on the change management process, How it is change management basically on the not not on software requirements.

1:25:45  
So change change your request management on the requirements side.

1:25:49  
OK, so you a need is.

1:25:56  
So a need which needs to be treated through new requirements at system level is translated in a change request or a new function.

1:26:10  
Yeah.

1:26:10  
So usually there is a new function.

1:26:12  
This is a first level new function needs something that is not existing and needs to be implemented this at system level by the system architect.

1:26:24  
The process is that system architect needs to discuss the inter system part, needs to define a technical aspects of the need and to have evaluation of the let's say complexity of the function.

1:26:47  
This kind of discussions are done internally between architects, so system architect and system engineer, so PFS and EMS, and also a discussion with the technical experts in terms of approval, technical definition, aspects, quotation, function and things like that.

1:27:14  
Once the NF is approved, next step is to have a change request dedicated for that.

1:27:21  
So the second level is the definition of the change request.

1:27:25  
It can be one NF and several change requests for example.

1:27:29  
Yeah, so change request it's the rest of the change request is on on AMS and PFS side and it is done together with project team.

1:27:41  
So usually the the change request is open.

1:27:49  
So or is is requested by the AMS or the PFS and it is approved by the project because project is the let's say the parameter which pays for the change request.

1:28:04  
Now for the run, once the change request is opened, there is a discussion between system and software and project to see when we need to deliver that change request and if it is something that is urgent needs to be delivered for the next model delivered.

1:28:29  
For example, if a change request is requested here, we already passed the Cdr zero, but needs to be delivered in MD, we need to prepare all the documents, all the technical aspects to catch the next model delivery.

1:28:45  
Yeah.

1:28:47  
So the process is once, once we have the change request and once we know the technical aspects and the deadline to deliver that change request, people starts working on that.

1:29:02  
And on system level, we need to define the requirements and to, let's see, follow the usual process is here 12 and the system and software, yeah.

1:29:19  
But yeah, basically and new function and change request is based on a need that it can come from vertical experts, from regulations, I don't know, feedbacks from the vertical validation and things like that.

1:29:36  
So these are the inputs for a new for a change request.

1:29:58  
No, for example, if you see it, it is analysis.

1:30:05  
You are talking from the new function change request right?

1:30:14  
Sorry I I was not able to hear you.

1:30:18  
I'm talking from the new function.

1:30:21  
What?

1:30:21  
Yeah, new function change request right?

1:30:24  
When the new function is included, then what is in request process?

1:30:27  
This is what you're talking, right?

1:30:29  
Yeah, yeah, yeah, yeah, yeah, correct.

1:30:31  
So my question is, let's say there is a small change, OK, in the in the requirements where requirements you have to pay on the prototype findings or results coming out, correct.

1:30:50  
So in that case, how do you change the requirement with the change, small change I would say, but you need not about such a extensive process.

1:31:01  
In that case, how do you manage it and how you do you communicate it, right?

1:31:05  
That's yeah.

1:31:07  
So there are 2 scenarios.

1:31:09  
For example, if we are discussing about the small change request, small update of the requirements, we need to think when this is happening.

1:31:20  
So if we are still in the SCDR process for that change request, general change request, let's say we shared the requirements, ACDR was passed and here we start developing the software architecture and maybe some mockup for the software and we see that our first approach and our requirement is not well defined and we need to update it.

1:31:52  
Yeah, it can be updated here before delivery if we saw some misalignments between what we defined at the beginning of of the topic and what we saw during development.

1:32:13  
So here it can be defined.

1:32:15  
But usually if this is happening after the official delivery, so once our requirements are implemented and they are already embedded in an official software, usually each requirement update needed must be treated through a change request.

1:32:37  
A new change request, OK, OK.

1:32:43  
And of course, if there is a minor update, we will not follow the same time frame process.

1:32:53  
Yeah, 4 weeks for a Cdr, 048 weeks for a Cdr one.

1:32:58  
It will be quicker, but it will depend on again on the model delivery when we will be, we will be able to have it in an official software.

1:33:11  
Yeah, these are the 2 scenarios.

1:33:13  
If if the update is happening, let's say if the need for updating the requirement is before the model delivery, so we are still in the process of development, we are able to update it.

1:33:28  
If it is after a new change request is needed and how we are sharing the information again.

1:33:38  
This kind of details are discussed between system and software in in our technical meetings.

1:33:47  
There is no official process to inform someone that requirement is updated or there is no let's say link between doors and the issues or tasks in Jaira or something directly assigned to the software engineers to know that requirement was was a updated.

1:34:10  
Is the the the only way of informing them is through through meetings, OK and emails maybe And is there any way to manage the history let's say what we would what we have perform 6 months back.

1:34:26  
Is there any way to pack it back?

1:34:31  
For example, if we update the requirements requirement, yeah, 6 months ago and we want to understand, yeah, why we did that, Yeah, yeah, here is all sort of information.

1:34:45  
Yeah, it's a good question because we we had the same remarks.

1:34:51  
So how we are doing it now you have the meeting minutes of the amount.

1:34:58  
So this kind of technical meetings that we have in which basically you, you must find all this technical discussion or you should keep all your emails or all your evidences for the requirements update.

1:35:18  
There is no usually I didn't saw that and we had this internal discussion.

1:35:25  
There is no possibility to to add evidences directly indoors like attachments for example to add their PPT on email or to link requirement with with the task where to keep all the history update of the requirement.

1:35:47  
In the past I work with integrity and in PTC integrity.

1:35:53  
The way that we we did that was to have an issue in the task linked to each requirement where to document each incrementation.

1:36:01  
We are not able to do that indoors and we are not doing it now what we are doing, it's only through emails and technical discussions.

1:36:10  
Yeah, yeah, you're correct, Alex.

1:36:16  
I believe all the all the model ALM tools has that capability to link the issues and talk with the requirements.

1:36:23  
So you can get the easy traceability whatever you have done.

1:36:28  
Yeah, even even even for let's say a group of requirements linked to a change request is really hard to do it indoors because we have indoors the comments section where we are typing.

1:36:46  
So it's a text, the change request ID.

1:36:51  
But you are not able to have an item indoors say to filter based on on an item and item should be the change request for example to see what are all the requirements linked to that change request or even to that NF, because the NF can be treated through several systems.

1:37:13  
Yeah.

1:37:15  
And by having an global item for example and F you will be able to see all the requirements for combustion on fillip perimeter on my perimeter as well.

1:37:27  
So now what we need to do is to go to open all the documents indoors and to check and filter them based on text in comment section to see what are the requirements linked to that.

1:37:44  
And if and if there is a typo, if there is a missing or let's say just a mistake from the BFS from the function owner and to let's say not feel that attribute, we are missing this list of requirements or we can let's say miss some of the requirements.

1:38:11  
So, yeah, yeah, this is this is an issue the the way that we are doing traceability for the change request and the change request management process because we starting the discussion from that.

1:38:26  
OK, so one more point I have in my mind is let's say prove change request if you do change to any one of the requirement which has the dependency or linked with some other internal requirement, then how you manage that part in dose.

1:38:50  
So if we are linking a change request with some internal requirements, I mean to say let's say if you have a change request to do some modification to one of the requirement which can be sustainable requirement which is linked with either business requirements or with the subsystem requirement.

1:39:09  
So how you manage this modifications for all the requirements.

1:39:14  
So the output of the technical discussion that we have is to identify which requirements are impacted.

1:39:26  
Yeah, once this requirements are identified, we are either update them all of them, OK, yeah, either we set them on obsolete and create new requirements linked to the new change request ID.

1:39:46  
So in the comment section we are adding the new change request ID.

1:39:51  
But here there is also an issue.

1:39:54  
Philip, do you have doors open on my side just not working?

1:39:58  
If you can show your yes, yes, yes, yes, yeah.

1:40:06  
So here if you can go in comment section in sorry comments, Yeah, attribute comments, comments.

1:40:14  
OK, OK, yeah, yeah.

1:40:18  
So here for example here Philip.

1:40:22  
Wrote the change request ID and change request name and NFID and name and F name.

1:40:32  
Yeah, yeah.

1:40:32  
So let's say that this requirement after official delivery we saw that is not applicable anymore or there is a mistake in the way that we we treat technical details and we need to set it to an obsolete and create a new one.

1:40:49  
To create a new requirement, we need a new change request best.

1:40:53  
But the core of the requirement it also it is also treated in the change request.

1:40:58  
So this ID Philip correct me, follow me, correct me.

1:41:03  
So I would like to find an example of an obsolete requirement just to because on on my side I'm OK.

1:41:11  
I find I found one.

1:41:15  
Well, it's not the best example.

1:41:17  
Usually in comment section we are explaining, we are adding the explanation why this requirement is obsolete and maybe if we have a replacement requirement for it, we add also in comment section manually this, these details for this is not the case unfortunately.

1:41:38  
So I need to maybe to check.

1:41:43  
Yeah, but I think they should it should have some sort of a standard also right in comment section.

1:41:48  
And lets say take this as an example, you pick a missing here in the attributes.

1:41:55  
So is there is no standard in such a case?

1:41:59  
No, no.

1:41:59  
It's a kind of a freestyle in each of the shift system perimeter finally.

1:42:04  
So there is a chance that we might miss something.

1:42:09  
OK, understood.

1:42:12  
Yeah, actually you will need to for the new requirement.

1:42:16  
You need to add the old change request because it was treated also in the old change request and the new change request that corrects the issue on the requirement.

1:42:25  
At least this is what I I did so have the both change request IDs.

1:42:34  
Look here we have an example.

1:42:36  
We have the new function and then issue issue.

1:42:39  
This issue was open because the MD was the the requirement initially was already frozen the along with its software solution.

1:42:49  
But then an issue was found after official release of the software solution and then this years seem to be an incomplete system need expressed.

1:43:05  
So for this, this requirement was created as NF OK to to respond to the same new function to link with the same function.

1:43:15  
But since it's an issue, a system issue, finally it should be traced with with change request.

1:43:25  
But it was traced as a as a, as an issue, as a respond to to an issue.

1:43:30  
So solution for for an issue?

1:43:36  
I need to find some other examples maybe.

1:44:02  
There was an obsolete, well, not good example what this requirement is obsolete because finally in comment section we need to define what it fine, I think means.

1:44:20  
That's the point, yeah, Yeah, to me.

1:44:27  
And so in case if anything is obsolete, then we when we create a new requirement, we have to add the comment section of the obsolete requirement to new requirement also so that we can track it back for the small stand due to this reasons exactly.

1:44:39  
Yeah, yeah, yeah.

1:44:41  
Here it will.

1:44:42  
It will help to have a change request item and the task and issue items linked to the requirement in which we can document and explain when, why, how was updated and things like that.

1:44:59  
Yeah.

1:45:07  
Do you want me to present?

1:45:08  
No, no, no, no, no.

1:45:10  
It's it's it was just to have image in front of us with an FID documentation on my side doors is not working.

1:45:19  
OK.

1:45:23  
Yeah, thanks.

1:45:29  
Pranav is question to you.

1:45:32  
OK, since you have worked, yes, can we define the workflows in DOS Classic?

1:45:44  
No means we can't define it.

1:45:47  
that's why IBM has done the integration with Rational Team Concert to manage the workflows.

1:45:55  
OK, So what we can do and best is we can define attribute here with a status OK and based on the integration we can keep modifying this status attribute, we can keep promoting it.

1:46:12  
But apart from that there is no define both yours here.

1:46:18  
So best standard idea I can suggest here is I think which someone should create a proper standard play with all the attributes defined correctly and with proper admin access.

1:46:29  
So it should be it should be properly governed.

1:46:33  
that's what I mean here.

1:46:35  
Once the requirement get freeze or baseline then means then only it should be moved to this proper Free State or release state.

1:46:45  
So but it should be governed by proper admin and everything should be hard coded like means in this case.

1:46:52  
I have seen that in comment section few things are missing which might create later on certain doubts in mind.

1:46:58  
End of requirement engineer.

1:46:59  
So proper standard template is required with proper attributes with proper values defined under it and it should be standardized.

1:47:08  
That should be the correct way if we have to do it in DOORS.

1:47:14  
And yeah, definitely required with some good planning management tool.

1:47:18  
DOORS is not a planning tool, it's more related to requirement.

1:47:28  
OK, good.

1:47:30  
So my next question is regarding the managing of variance.

1:47:39  
So now you have multiple variance on the level.

1:47:43  
How it is calculated on the requirements level?

1:47:46  
Maybe a system or maybe a software that is other question.

1:48:00  
Maybe uh, anyone want to take a break because we are almost 2 hours discussing yeah we can take a break from ohh maybe 5 minutes break quickly maybe yeah we we can take a break and prepare the answer to this question yeah yeah So maybe how we can recollect after 10 minutes so so we're in 10 minutes.

1:48:25  
I think it's OK.

1:48:25  
Yeah.

1:48:26  
10 minutes.

1:48:26  
Yeah.

1:48:27  
Is it OK for.

1:48:29  
Yes.

1:48:29  
OK.

1:48:29  
Thanks.

1:48:30  
Yeah.

1:48:30  
OK.

1:48:31  
Yeah.

1:48:31  
We'll meet after 10%.

1:48:33  
Thank you.

1:48:35  
Thank you.

2:04:02  
OK, we are back.

2:04:05  
Can we start?

2:04:11  
Yes.

2:04:13  
OK.

2:04:15  
So discussing about variance management on the requirements, so how we are going to catch how we are managing the product level variants on the requirements, system requirements as it is software level requirements.

2:04:47  
So for for the variants again it's the view process on the requirements in the the on the common document indoors based on application scope.

2:04:57  
So for example, if a vehicle is not fitted with the feature, I don't just an example the manual transmission versus automatic transmission.

2:05:09  
Yeah.

2:05:10  
It's an easy example that in this case we are able to filter all the requirements applicable for the specific transmission.

2:05:22  
It's an automatic transmission.

2:05:24  
And usually this kind of review is discussed at the beginning of the project, which are the requirements to be applicable and not.

2:05:35  
And in software level, we have software configurations that needs to be updated to deactivate the strategies specific to each variant.

2:05:54  
Yeah, But so we don't have a dedicated document for variable configuration or on variant configurations, let's say?

2:06:09  
Yeah, to link a requirement with config, for example, software label.

2:06:25  
OK, but but how you get inputs from the products team?

2:06:43  
Let's say you have a product and there are 3 variants as you said one is automatic variant, one is manual.

2:06:51  
So so maybe whatever the requirements different is let's say for automatic there are certain set of requirements you need to add in the module.

2:07:04  
So that is you just manage it by attribute or?

2:07:09  
Yes, it's it's only by attribute and review in system parameter and alignment with configurations at software level.

2:07:25  
OK, So that means the process is manual, fully manual I would say yes, I know if there is any process automatic at software level blank way if you know, but it's from as far as I know this is done manually at the beginning of the project for software.

2:07:51  
The input on the regarding variant is based on the system requirements I would say and we based it on the applicability and we don't get all the information.

2:08:04  
We don't how to say very, there's no document explaining the technical division of the of the product for us.

2:08:23  
What is the last sentence you say?

2:08:25  
Everything is based on what we get from system as input.

2:08:28  
So there is no document explaining as the technical definition of the product.

2:08:33  
For example, as Alex said, automatic versus manual.

2:08:36  
So based on the applicability that we see in the system requirement, we then decide for which product, product or project our piece of software that to develop will be applicable.

2:08:51  
OK, but there could be some documentation available for the variants, right?

2:08:59  
Though it is manual but you have some sort of PPT or excel sheet where the different variants are maintained and what kind of requirements are going under that particular variant.

2:09:14  
Is that documentation available somewhere?

2:09:19  
Would give an example of the engine types for example that we have which are given with the diagram detailing every component.

2:09:25  
So then I can know for which engine on my function because it's actuator and sensor based a lot.

2:09:33  
I know which which component I need to provide a piece of software.

2:09:38  
So for a specific engine I have, I don't know, let's say turbo versus non turbo engine.

2:09:43  
I know that they need to provide content for auto charger or not supposed to exist in the form of PPT, if I'm not mistaken.

2:09:50  
Alex Philip Yes, yes.

2:09:54  
So we firstly in Cdr Zero, we present also the functional architecture and the physical system architecture, the part of it where we want to intervene to, to modify, to create something new, but modify something existent by our new function and change request.

2:10:18  
OK, So here in the SBM where their activities carried out for the variance, is that SDL zero or SDL one?

2:10:36  
No, I didn't catch the full questions right, thought it's something is that I can answer, but can you please repeat is it presented this?

2:10:46  
Yes, it is OK.

2:10:52  
Not only yet, yes.

2:11:19  
Yeah.

2:11:20  
So now I, I was asking at which stage you get the inputs from the variance and at least as you freeze it as this variant requirements are these and variant variant requirements something like that?

2:11:43  
So where you freeze it, is it a SDL Zero or SDL one?

2:12:03  
I don't know on my side, I don't really understand what you call a variant.

2:12:09  
So in we are developing new technology, OK.

2:12:16  
And these technologies depending on technical definition of each project may be extracted, may be, may be taken or may may not be taken for that project.

2:12:25  
So for that software project, the software which is used by by certain project.

2:12:33  
So depending on technical definition, certain part of of software may not be used.

2:12:41  
This is in charge of of the project team, the software leader.

2:12:50  
Software project leader takes and assures the full functionality of each software for its for his project and The thing is not created yet.

2:13:03  
They contact the system team and we try to develop something new to to to cover the need.

2:13:12  
I don't really understand what should be variant.

2:13:17  
What you mean.

2:13:19  
Maybe I'm so variance based product variant I'm talking about.

2:13:23  
I'm talking from the top level.

2:13:25  
Let's for example, you have 3 engines for one vehicle.

2:13:29  
One is a gas engine, one is a diesel engine, another is a electric engine, OK, electric battery for example.

2:13:40  
Now for these 3 different engines, you have 3 different system requirements, right?

2:13:46  
Right.

2:13:48  
Yeah.

2:13:49  
So from this 3 system requirements, when it flows to software requirements, OK, So software people need not to worry about how these variants are managed, OK.

2:14:07  
They will get a set of system requirement development for the software.

2:14:12  
Similar way one variant cities engine, they will get a set of requirements from system side and they will convert to software.

2:14:20  
So is this the process followed or you are just defining the requirements as a whole for engine at 1:00 place and then software takes those requirements and then apply it on the different different variants.

2:14:39  
How, how it works, that's my question.

2:14:42  
But at system level, we have only the application scope.

2:14:46  
Yeah.

2:14:46  
And usually we are working with software loops or software branches or software variants.

2:14:54  
Yeah, which are applicable for several variants.

2:14:58  
But it's just a matter of software configuration to enable or disable some specific features.

2:15:06  
Yeah, so but system lens, sorry, sorry.

2:15:15  
Bear in mind that there's also select the Bing tags, so they can also select or not select as Philip pointed out.

2:15:21  
So it's not just the the enabled disabled by configuration.

2:15:25  
Yeah, yeah, yeah, yeah.

2:15:27  
But what I mean at system level, we have only the applications scope to to trace the variant.

2:15:40  
Let's see, for us it's not necessarily a software variant, it's a technical definition.

2:15:48  
Yeah, further on software team and the Blogger correct me is responsible to enable or disable specific features or specific software functions that are or not applicable based of on project needs.

2:16:13  
Yeah, for example, Yeah, please.

2:16:15  
So the the first filtering, let's call it based on the project technical definition is done after SCDR one.

2:16:23  
So when we design the circuit, the software architecture, we know which specifications will be involved in this development.

2:16:32  
And here in SBM we define the tags.

2:16:35  
So for which project or for which component certain specific applicable.

2:16:42  
So there can be transfer specifications, There can be specifications that are as we put it only for diesel, gasoline or electric.

2:16:52  
And then each project will know then through their tools.

2:16:56  
So through my AMS they will select the specifications that are concerning them.

2:17:04  
And the second filtering then is done if based on the concept that we have defined, there can be parts or whole specification that is embedded in this piece of sorter and then by configuration disabled.

2:17:20  
And there is also the filtering done by module where the module is a container of several specifications and based on those tags the project does the preliminary filtering saying I do not need this module at all or any pieces of it or the whole module.

2:17:37  
So this part with the tags is defined after a Cdr one.

2:17:44  
OK.

2:17:48  
So mainly the variance you apply on the software level right now the system level, yeah.

2:18:00  
But maybe if you have some example how you work with variant, I think that will really help us to understand are you manage the variant, maybe some kind of document if you have variant XYZ and how it is linking with the software, how you are enabling or disabling the software function for the specific variants.

2:18:24  
If you have some kind of input documents already available, I think that will be greatly helped.

2:18:29  
If not right now, maybe you can share it later as well.

2:18:34  
I think the only thing I can think of at the moment is to give you an example as it is in just to show how it is in SBM, so how it applies to a module level and the specification level and an example of a configurable specific SO specification with the configuration.

2:18:55  
I will take the presentation if it's OK.

2:18:57  
Yeah, OK.

2:19:02  
And just did I take that OK this one.

2:19:12  
So in this PM we have 2 items is DT and MDT is DT will be the specification, is MDT will be the.

2:19:25  
And here I have specification one entry.

2:19:29  
So for each version for specifications.

2:19:32  
So let's say I have this, I want to pick a better example somewhere.

2:19:43  
So OK, it's not specifications interface, but it's still.

2:19:51  
So here we give tags.

2:19:53  
So thanks.

2:19:56  
Tell me that the following project will take this file in their content.

2:19:59  
So it will be for hybrid for gasoline.

2:20:02  
For engine and for the zero P4 and plus it links to the specific device.

2:20:09  
So if the project does not have this, then it will this content will be.

2:20:16  
So in the developing process, I would take this test Cdr one, develop my soft architecture and say also I would create this item and say, OK, it's typical for all of these lines.

2:20:31  
And by then I will create an entity which is a concatenation of all the tags that I have defined and it contains all the notifications to this module.

2:20:43  
So this is the container based on the tags I have defined for each of these height.

2:20:51  
It's here.

2:20:51  
It will then just concatenate everything and put them like this.

2:20:57  
And then using my EMS, we have a lot of knowledge of that to be discussing it in the film.

2:21:07  
Seeing these tags, let's say that this one, OK, it's applicable for all internal combustion engines.

2:21:14  
Let's say an electric motor project comes and these tags they will completely ignore this module because it's not relevant to them, does not contain anything relevant for an electric vehicle.

2:21:30  
If by any chance they this module is applicable to them, then they would go in and perform filter specification.

2:21:40  
So they will take this specification.

2:21:41  
I will see are there any tags that apply to my project.

2:21:46  
So here if they do, they will take it.

2:21:47  
If not, they can just discard this specification completely and move on to the next one.

2:21:52  
So let's say they can take anything between a full module or a partial module.

2:22:04  
Decision of taking it full operation module or which late or which there should be some kind of input to me right to select or maybe to take a decision on selection.

2:22:16  
So what is that?

2:22:17  
That's what I'm asking.

2:22:19  
That's I assume it would be the project technical definition.

2:22:22  
So my function as it is, is again based on components, total admission valve, VGR valve.

2:22:29  
If a car doesn't have a product, certain car doesn't have an EGR valve for example, then based on the technical definition, they do not take the specific content for EGR valve.

2:22:44  
Project teams might be able to explain this better than I can.

2:22:48  
OK, OK, perfect.

2:23:02  
And whatever the variant inputs you are getting as per those inputs, you are managing the requirements as well, right, For the software specifically, yes.

2:23:28  
So if you have any question on this variance management, I think this is one of the critical part in requirements management for very management.

2:23:47  
Actually they what I understand from the discussions, they see the software as one of the component and they're tagging that component to different system variant product variants.

2:24:05  
So they see the applicability of that particular software for different product variants.

2:24:13  
This is what I understand.

2:24:14  
So they don't need separate variant management approach for the softwares.

2:24:24  
Yes, correct, I believe, yeah.

2:24:27  
And secondly, what actually we wanted to understand, Stefan, is like may be from the system side, from the product engineering side, they manage variants, for example, 100% engineering BOM or 150% engineering BOM.

2:24:47  
And based on that, we have requirement specifications also.

2:24:52  
For example, one master specification will drive them to create a design for one platform level.

2:25:02  
For example, one platform will have some 5 or 6 different variants.

2:25:08  
First they will start with master specification which will be common across all 5 different variants.

2:25:15  
First they will start with that, so they will capture all the requirements or applicable for all 5 different variants.

2:25:24  
So we call it as a master specification.

2:25:28  
First they will start with that and then they will go with further 5 different configurations for 5 different variants.

2:25:39  
For example for example gearbox with 5 gears, 5 or 6 gears or 5 gears manual, 6 gears manual.

2:25:49  
But 80 to 90 percentage of the requirements are common for all 5 different variants.

2:25:57  
So only there will be if 10 to 20% for example 10 to 20 percentage of frequency different for the variants for it.

2:26:06  
It is basically based customer specification based comes from the customer specification.

2:26:11  
So same engine or same product is being supplied to different regions for for different customers.

2:26:21  
So we will identify those specific requirements from the customer point of view and then we will create the configuration.

2:26:28  
This is how it works with the product engineering.

2:26:32  
So similarly what we would like to understand.

2:26:35  
So how do we adopt that approach to our software management team.

2:26:42  
So for example, one software component, if you assume a software as one component and you are supplying, you are tagging to different variants, product variants.

2:26:54  
So apparently we have one step, go back and identify the software requirements also to match with the product variance, correct.

2:27:05  
So if that is there, then this whole life cycle, software development life cycle will also under the process of product life cycle or system development life cycle.

2:27:19  
So that is what we are trying to tell you.

2:27:24  
Yeah.

2:27:24  
So maybe that we may need to connect with the projects team for that and we have a dedicated variance management session plan later, so we can clarity on that.

2:27:39  
Yeah, sure, sure.

2:27:41  
Yeah.

2:27:46  
But that's fine.

2:27:46  
I believe overall we understood mainly on the software level you are managing the variants specifications as the inputs provided from the project team as per the inputs provided from projecting.

2:28:05  
OK, because you know, it is really important for us to understand how you are managing the variants because your change management complexity in depends on the variants as a how many variants you are managing for which variant it is applicable, which is not applicable.

2:28:29  
I think the the the variance are not as I said, I have managed at this level, I'm not 100%.

2:28:42  
Maybe my colleagues can correct me.

2:28:46  
There are a specific project for each engine variant, let's say, and each of them comes with your functions development, so system modification, software modifications.

2:29:04  
And then when the software is built, the software leader just select what he needs for that particular engine variant.

2:29:20  
OK.

2:29:24  
So it will be easy for software team to understand, yes, So develop those requirements there.

2:29:41  
OK, I think very good.

2:29:50  
Another point would like to understand is the how you are managing the cyber security requirements right now.

2:30:02  
I believe there is separate team who works on the cyber security in each organization.

2:30:07  
So is the same thing applicable over here And from their side you get the input for the cyber security.

2:30:15  
It may be the functional safety requirements or it may be kind of FME requirements.

2:30:23  
So how does it work over here?

2:30:31  
Well, I don't know, maybe Philip knows.

2:30:36  
Unfortunately we don't have yes, when each system side we have dysfunctional and safety function leader.

2:30:45  
Unfortunately, I don't see anybody in the in this meeting on my side we have Daniel Turku is in vacation.

2:30:56  
Well, regarding specifically cyber security, yes.

2:31:00  
So we have a different team specific team.

2:31:06  
I don't have contact with with them.

2:31:09  
The the the contact should be mostly maintained between each PFS on this function and on safety side, sorry with with those those guys, that specific team.

2:31:21  
So yeah, I cannot answer, I cannot provide you a lot of details for regarding the cyber security and the at least not on combustion perimeter for now.

2:31:36  
I see Alex is maybe he knows more, more details regarding cyber security, but he is on hold right now.

2:31:44  
He he will be off for 30 minutes.

2:31:48  
Yeah, OK.

2:31:51  
And the same thing about the functional safety requirements as well.

2:31:55  
Do you have any specific team working on the functional safety aspects?

2:32:00  
Functional safety, yes, it's the same, it's the same guy.

2:32:06  
We so we, we are in, in each system we are splitted in.

2:32:09  
We have some the system architect, we have the functional design requirements and dysfunctional slash safety.

2:32:25  
Leader, let's see dial design design leader for the requirements.

2:32:31  
And also we have the validation guy, the the guy who who gathers all the validation proofs in order to, to finalize each function process to to demonstrate that the the new function developed, it's it's well developed and it's fully functional.

2:32:49  
Finally, you know in each details, all the details, OK, So there are separate teams working on this cyber security and functional safety, right?

2:33:07  
By any chance you have idea that which rule they are using, application they're using I think for safety.

2:33:15  
Philip mentioned Daniel Tuco, which is on holiday this week.

2:33:18  
Oh, OK.

2:33:22  
Maybe we can schedule with some dedicated meeting for actually slip functional safety that is important Yeah and how it gets embedded with your regular requirements manager.

2:33:33  
Both I think the cyber security requirements as well as the functional safety 26262 important.

2:33:45  
Actually indoors we have 3 different attributes.

2:33:48  
One is the say the AC level.

2:33:51  
The AC level for, for requirements, for actually for the requirements which turn in software requirements.

2:33:58  
We have grade rating for hardware components and and if it's safety relevant or not.

2:34:07  
And yeah, mainly for functional, purely functional requirements which are not anyhow linked with safety.

2:34:16  
We, we don't link, we don't specify any C level, any grade rating and say and safety related, not applicable.

2:34:24  
But for those which are safety related or we should, we shall.

2:34:29  
Well, we, it's the safety guy in each system who who must set on a C level.

2:34:37  
And of course, having an C level, all the FMEA and, and the study behind it should be covered.

2:34:46  
You should be already done, you know.

2:34:49  
But yeah, since Daniel Turk on my side is not, he's not here.

2:34:53  
I'm speaking on behalf of him.

2:34:56  
He should be the the hit should come with a lot of details regarding this topic.

2:35:02  
Unfortunately I don't have all the image in in safety side.

2:35:06  
OK, OK.

2:35:07  
Matter world.

2:35:08  
Yeah, yeah, maybe we can have our action item on us to yeah.

2:35:14  
Talk to Daniel Telugu and and anyone who who is working on the cyber security side.

2:35:26  
Daniel is for functional safety, right.

2:35:28  
You says it's functional safety and dysfunctional side on on combustion perimeter and on air system perimeter and after treatment system.

2:35:41  
I believe it's he's working on 3 different systems in parallel.

2:35:46  
So he's covering these 3 systems.

2:35:50  
But regarding cyber security, I didn't I have no idea, sorry.

2:35:56  
OK.

2:36:03  
My my manager, Christopher Perret, he was here in the meeting, but now I cannot see him anymore.

2:36:09  
Maybe he has an idea on on this topic.

2:36:12  
We should ask him or so or directly.

2:36:21  
Yeah, OK.

2:36:27  
That will be important for us to understand this 2 topics.

2:36:31  
Yes, we'll, we'll talk with Razan today.

2:36:36  
OK, Right, OK.

2:36:43  
And maybe when you are going to float discussion to everyone.

2:36:49  
So we can also include those team members on the side basically retained functionality so that they can provide some inputs to us.

2:36:57  
And additionally, I believe we should have some kind of dialogue with them, discuss some more on this because this important aspects and going forward, you cannot just avoid these 2 things considering the automation in the vehicles, the number of EC using in the vehicles, right?

2:37:19  
Yeah, yeah.

2:37:26  
And any idea about the FMEA process anyway, we are going to cover it in the project management, but just from the understanding perspective, how you get requirements on the Euphemia side?

2:37:41  
It's still Daniel on this side.

2:37:43  
Sorry.

2:37:43  
Yeah, right, OK, good.

2:37:52  
I believe meeting with Daniel is critical for us.

2:37:56  
It seems so.

2:38:00  
Yeah, right.

2:38:02  
So one more important aspect I would like to focus on is the different roles for this requirements management and software requirements management of close the review was the what you can say the author, it is basically so who are authoring the requirements, who are approving the requirements, releasing the requirements, making it absolute.

2:38:31  
So can you please throw some light on that means who are the specific roles?

2:38:36  
Let's say software developer, I can understand software lead, I can understand system architect, I heard.

2:38:43  
So maybe if you can have those roles defined and who is responsible for doing what kind of activities, decision makers who take the decision on note, approving the requirements, rejecting the requirement or whatever, you can share it with you.

2:39:16  
It's maybe I will send it to to Stefan if he doesn't it, I don't think with the sorry, I don't have it.

2:39:29  
So if you have something you can share with me.

2:39:32  
Yeah, I will.

2:39:33  
I will send it to you.

2:39:34  
And then if you consider that it's it's shareable further on, yeah, please, please share it.

2:39:43  
And the regarding the, the requirements, the I will start with system requirements, OK, So high, high level requirements, we these are in charge of a mess of system.

2:39:57  
So the the system architect, he manages them directly.

2:40:01  
He may, he may the delegate of PFS functional function owner to to write them and to manage them in terms of let's say life cycle status of details, technical details.

2:40:19  
But the owner it should be on, on architect side.

2:40:24  
Then we have the design requirements, the design system elements which are owned and controlled and and developed and the freezed managed by by the by me actually by by the system function leader to respond to the to the high level requirements.

2:40:45  
And this the application, the the sorry the life cycle status.

2:40:50  
It's also updated by by PFS while the requirement is being accepting and then turned into into software solution.

2:41:03  
So the entire life cycle of the design requirement is in charge of of the PFS.

2:41:10  
And then we have also the validation, the valsis which is associated as I, as I presented you firstly, which it is linked with each requirement.

2:41:23  
This validation line or lines are firstly drafted by the by TFs and then submitted towards the list the so the leader engineering system.

2:41:37  
So the so the system validation engineer, let's say he's in charge of modifying the the life cycle state status for for the validation plan according to the to the actual validation process.

2:42:02  
So the submitted, the submission is from PFS store list and then from submitted to accepted and then to frozen state.

2:42:13  
It's it's on on list perimeter, let's say.

2:42:21  
So here regarding the requirements, we have fully responsibility of of PFS and in terms of validation of these requirement if to to prove that these requirements are well implemented in the software.

2:42:35  
Well in the in the final solution, it's also in charge of of of lease regarding the to the software requirements.

2:42:46  
It's the it's on software side, it's on maybe blog.

2:42:52  
We can help with the with these details regarding to to the software requirements.

2:43:01  
But mainly these software requirements as are are answers solution answer to to the the system need actually, yeah.

2:43:10  
So they are written by the senior MBD, so in my case me and they're implemented by the designers.

2:43:19  
The approval comes from the software architect.

2:43:21  
And as you said before also you on system level do a bit of review of the software requirements.

2:43:26  
Yeah.

2:43:26  
And then the final Simulink design and validation is also mid level are approved by me.

2:43:33  
And also the since the software architect and view as system also confirmed that the results are what you expect.

2:43:44  
So that will be the Cdr process in a nutshell for us.

2:43:50  
OK.

2:44:03  
I know you mentioned the baseline indoors.

2:44:06  
Yeah, we used to use baseline and previously, but not, not, not anymore with at least on on combustion perimeter, on combustion system side, we are not using anymore baselines.

2:44:19  
But we, we certainly use the history of each requirement.

2:44:23  
We can go in options and check the history of which requirement and its modification and to just like to, to better have one have a better overview of why when and why any requirement to let's say text was modified and by who and when.

2:44:44  
Yeah, in in which period of time?

2:44:47  
So to get these, this type of information, we check the the history of each, each requirement.

2:44:53  
Usually it doesn't have to happen.

2:44:55  
It's as we discussed previously, if we if we find out that a requirement is not sufficient, we should set it to obsolete and create another one.

2:45:06  
But it's not always the case.

2:45:09  
We also have some, some in such, in some cases we we modify, we are able to modify the requirement before the official software delivered for it.

2:45:22  
And in that case we are managing the requirement history by by checking the details beneath.

2:45:31  
Yeah.

2:45:34  
And the the requirement can be modified only by PFS.

2:45:39  
That's that's the the idea only the PF or PFS slash Ms because since Ms is higher in in the era, he let's say he is also able to modify a system requirement design requirement with he must delegate or he must let to the PFS to do that design.

2:46:11  
OK, Yeah, thanks.

2:46:14  
Maybe if you can get some kind of documents, you know, specifying all these roles and as mentioning that who is the authority is to, you know, define all those system level requirements and kind of get or we can save the well, freezing of all those kind of variants or requirements because who he he was mentioning about Ms right.

2:46:51  
So who will be the people who not names actually, but rules.

2:46:57  
So that will help us good.

2:47:07  
Any specific pain areas or you know some kind of improvements you are looking for going forward?

2:47:24  
So Jadi, before that I would like to know about the customization thing like in case if they have done any sort of a customization in those to improve the functionality of those.

2:47:32  
Yeah, thanks.

2:47:33  
Thanks.

2:47:34  
Yeah, go ahead.

2:47:36  
Yes, means it.

2:47:38  
It in case if anything comes to your mind let us know.

2:47:41  
Is there any automation or the customization done on doors or anywhere on the requirement side to improve the feature or the functionality of tool or the process?

2:47:59  
So sometimes it happen that you are writing small, small scripts to I know reduce the redundant activities or maybe link something with some other objects.

2:48:15  
So there are a lot of things are done from the business side.

2:48:18  
So in that case how you are managing with or maybe have you done it?

2:48:23  
So, so would like to understand that is the first question.

2:48:26  
Any customization perform on top of doors out of the box correct features some kind of DXL scripts you have written?

2:48:42  
I think answer is no.

2:48:44  
Sometimes it may happen that you are working on day to day activity but you don't know that this is the scripting done, so you are doing as a part of your Daily Show.

2:48:56  
But actually that is not the out of the box capability of that particular tool.

2:49:01  
In that case, your IT or someone else might have done some kind of small customer to just automate it.

2:49:14  
For example, in in the in our previous project when we were talking to that particular customer, they were also using indoors Classic.

2:49:27  
So there they have developed the rashboard, you know, to see the implementation status of all the requirements.

2:49:36  
OK.

2:49:36  
How it is right Pranav, if you remember correctly, yes, yes, yeah.

2:49:44  
So different colour coding like you know if it is implemented it is green, it is let's say on time it is green, if it is not then it is red.

2:49:55  
So all those kind of customizations they have done on top of out of the box maybe if you are using such kind of thing, let us know since that is also one of the requirement right in a particular.

2:50:21  
Not I thought maybe you can discuss with your team members and let us know maybe separately.

2:50:29  
Yeah.

2:50:33  
OK, so I was talking about the list of pain areas, what difficulties you face on day to day job that OK, you may think that OK, this should be linked with this.

2:50:47  
I should get some, some maybe requirements or something automatically populated to my tool that will, you know, make your life easy.

2:50:59  
Or maybe you are thinking that OK, this is hitting my time lock, I can do a lot of value adds instead of, you know, doing this job repeatedly.

2:51:11  
So do you have such things in one?

2:51:14  
Because you can give lot of insights on that front.

2:51:23  
For me, it's not so much about repetitiveness, it's more of, as you mentioned just now, lack of link between items.

2:51:30  
OK, So starting from the link between your software requirements and system requirements that we lack, that would be very helpful.

2:51:40  
Then for future, let's say for analysis of bugs, if an issue is discovered, then to be able to pinpoint it better and to link it to system and software requirements.

2:51:56  
So you the bugs linking or defects linking to system and software requirements, right just moment we do not have that possibility.

2:52:05  
We can link and a bug to a specification to a module, but beyond that it does not go deeper, OK.

2:52:15  
And we do a sort of an analysis for the root cause of the appearance of the bug, where then we can kind of say that if it's, let's say, and miss some problem in the requirement how it is written or it's in implementation, then we can just write it.

2:52:32  
But it exists as a text and it's not really linked to anything still.

2:52:39  
OK, so, so some kind of some kind of workflow, you want to say that that will raise the bug that will resolve it, right.

2:52:49  
Those life cycle will resolve it entirely.

2:52:52  
And then you will get the actual, uh, you know, social on that particular bug and you can change the requirement if possible, change the software code, whatever the outcome of that particular life cycle.

2:53:04  
Exactly, yes.

2:53:09  
And I would say another, OK, this one might link a bit more to repetitiveness is the preparation of this Cdr documents and the completion, how we complete those tables that Philip presented at the start.

2:53:20  
It gives the link between system requirement and software requirement.

2:53:24  
So those are very tedious.

2:53:27  
It's a very hard how to say it.

2:53:33  
You need to add roles, merge cells, add content and so on so forth.

2:53:38  
It's a very, very finicky process to fill up those tables.

2:53:42  
So there we need, we were hoping to achieve some sort of improvement there where we can complete our software requirements much better.

2:53:50  
And this link, it still connects to the link between software and system requirements, I guess.

2:53:56  
So by achieving that, maybe we can improve also that part.

2:54:00  
And we have, it is we'll find it easier to complete those tables or in whatever format we define in the feature.

2:54:09  
OK, OK.

2:54:12  
And another thing would be related to the dysfunctional part where so in our software we have failures and downgraded modes and the logic is that a downgraded mode, sorry, a failure triggers a downgraded mode.

2:54:30  
So that means it applies a certain limitation in the behavior of the software.

2:54:35  
Example would be limitation of torque.

2:54:39  
For example, we have a failure on some components, torque is limited, the car can't be driven fast.

2:54:47  
So there were some efforts in order to made to improve this connection, first of all between this functional system requirements and failures and then from there also in the other link between failures and downgraded modes.

2:55:05  
But I feel that we still lack a bit there.

2:55:08  
Daniel would be still the person to explain this much better.

2:55:14  
And also we lack.

2:55:16  
So then how does the downgraded modes exist as a textual description?

2:55:21  
So just a sentence limit torque to 50%, for example, or torque limitation to 50%.

2:55:28  
I think it's the correct phrasing.

2:55:31  
And then we lack a clear image of what, which part of the software is linked to that sentence.

2:55:39  
So for us in Simon, link is just a block that applies the downgraded mode and to have link between that specific block in that specification where it's implemented to that piece of text in the requirement, we have the diagnostics database that provides some information.

2:55:59  
But still often we need to look by hand in the symbol link specifications to determine what where is this downgraded mode implemented.

2:56:12  
OK, so it's like a link between software requirements and symbol link model, right?

2:56:20  
Yeah, right.

2:56:28  
So currently your symbol link is not integrated with all of these systems.

2:56:34  
It's a separately, yeah.

2:56:44  
Maybe in the software development and the source code management, we will now involve this single link people as well, right?

2:56:54  
So how they get the inputs, how they generate the code, right?

2:57:01  
So we'll get end to end visibility on the requirements, then defining the modules single link, generating the codes and then managing it further.

2:57:14  
So that entire flow will be helpful.

2:57:29  
Does it make sense?

2:57:30  
Yes, yeah, Actually presently the software requirement management tool is missing.

2:57:40  
So that's the issue.

2:57:41  
That's why they don't have any traceability with the software architecture or the blocks you can see.

2:57:46  
So means as per him actually if he wants to go back to see which requirement is actually affected.

2:57:54  
So it's very difficult for him.

2:57:56  
So, yeah.

2:57:57  
So where we have to work, Yeah.

2:57:59  
No, I understand that on the high level.

2:58:05  
Yeah, understood.

2:58:05  
Is the system level architecture is managed in the PPT or Visio?

2:58:10  
What system system engineers are comfortable?

2:58:14  
OK, then you have requirements written on the system level, on the software level and from there they take it to MATLAB of the implementation.

2:58:29  
OK, so now how that software architecture is defined, that part, I'm not sure who is taking care of that.

2:58:37  
For software architecture, we have a system architecture on the high level, but software architecture who is taking care of that and how it is then taken to Matlab.

2:58:48  
So it's it's responsible for their function defines their software architecture and at the moment it do not have.

2:58:57  
So everything is change request specific or issue specific.

2:59:01  
So when we implement modification, we define the software architecture for the technical fact, but there is no architecture for traceability.

2:59:11  
So we do not have a global architecture, let's say global software architecture.

2:59:19  
OK, OK.

2:59:25  
So, so that would be interesting to see how, you know, MATLAB guys start with their work with, right?

2:59:34  
So how they are taking the inputs from systems in here and the requirements and how they are starting the implementation, that will be interesting.

2:59:45  
And after that I heard that the code is automatically generated in the MATLAB, right?

2:59:54  
Yes.

2:59:54  
Then you are taking that code, modifying it and sending it to sorry supplier for the integration, correct?

3:00:04  
Yes, right.

3:00:05  
So then entire process, I think we will dip dive in the next option planned I think on the Tuesday.

3:00:35  
Yes, maybe on change management also because they are they are working in the change, change request process, yes.

3:00:47  
So basically management is a big process, right.

3:00:50  
So it touches touch bases, all the functions I would say the requirements.

3:00:56  
So it is a validation verification whether it is a system architect, software architect, touch wise everyone.

3:01:04  
So it's important to understand their perspective.

3:01:10  
OK, thank.

3:01:29  
Any other inputs?

3:01:32  
Philip think Alex is on hold, still is in the meeting but Philip or Chris?

3:01:45  
I don't, I don't know, I don't know link with with what doesn't work well actually, right, right, yes.

3:01:58  
So linking is the biggest problem.

3:01:59  
We understood that.

3:02:02  
We also, I explained you initially we also have since we have let's say horse internal database, horse doors, OK.

3:02:12  
And we also have unpaired database on on the other side of to complete the vehicle systems, let's say, OK, then the we lack of of high level traceability.

3:02:25  
Let's say we, we are doing it via AMS or Amex exchange on via email.

3:02:32  
I suppose I it's only my supposition because I'm not an AMS, I'm not an architect.

3:02:37  
I only receive high level requirements in some, some way, usually by text, not not by official or STR or in combustion side.

3:02:49  
And then I transformed them into into design requirements.

3:02:53  
But I think we also miss this part, this high level linkage, let's say because we have different Pbses, so product brand breakdown structures different.

3:03:06  
When I say different, it's that we have the horse one and then we have we need to work with the same PBS image of PBS from the other side, from one pair.

3:03:17  
In this case, by working with you know, and you imagine it's, it's not really easy to, to, to create the global view or to, to go to 2 SEC 2 steps back and to, to check all the, all, the, all the picture.

3:03:38  
This is what the architect is doing actually, Yeah.

3:03:43  
And also in this meeting we I see no architect, also system architect, maybe these guys, in my case, Julian Seon.

3:03:52  
And on their system side, it's capital, maybe they can provide a lot of information and a lot of details and how things works and how things should work on, on architect, on architecture side, on system architecture side.

3:04:09  
So on my side, it's just I, I feel it's, I feel kind of uncomfortable to, to, to not have all, everything properly done in upstream of, of my job.

3:04:21  
You know, this is, yeah, OK, yeah, maybe we can have a action item to connect with the system emailers, right?

3:04:29  
So to understand their process basically.

3:04:35  
So that's an interesting point Philip.

3:04:36  
I believe you said there is a common database between the horse and other parties, right?

3:04:44  
Managed on the Empire side, right?

3:04:47  
And and I believe it's a doors only, right?

3:04:50  
Sorry, can you repeat?

3:04:52  
It's it's the doors database only.

3:04:56  
This is from my understanding at least the door we have 2 different doors database.

3:05:00  
Well, 2 different door database.

3:05:02  
If we speak about the, the relation between horse and the and the Reno, OK, the customer global customer Reno, the vehicle itself, because the vehicle requirements are mainly in another database then ours with exception of the OBD that that I, I showed you because the OBD requirements must must be visible for us directly in order to comply.

3:05:29  
Those are textual information, very, very accurate textual information we which we need to take into account and to to further decomposite, you know, in our, in each system side.

3:05:44  
And yeah, in general, the performance requirements, the I don't know emissions requirements, you can imagine a lot of possible vehicle requirements which we don't have access to because it's not our database.

3:06:00  
It was initially since yeah, well it's not dispatched anymore.

3:06:05  
I think this is a problem that we have right now to working with RAN during the split, OK.

3:06:11  
And in the field we should see it and know us and OEM and OK, probably they will not give us access to their database, sure or not.

3:06:25  
Yeah, policy and at some point in this project we need to define what we need from the OEM and how we will get those information.

3:06:48  
So I think the the AGVT should should be able to import requirements, which is in some, I don't know some standard way from from one way and either is Reno, either is Geely or anyone.

3:07:11  
Yeah.

3:07:11  
So that that that is I believe the starting point of your project, correct.

3:07:15  
So getting the requirements from your customer, yes.

3:07:20  
So today he was saying that you're getting it from the common database, which is, you know, currently you have access, you can get it, but in what type you get whether it is a Excel format, Excel sheet, we don't know.

3:07:34  
So that we need to get it clarified from the Ms, right?

3:07:41  
Yes.

3:07:41  
So I, I think if if there is on there is a standard on the market for sharing the requirements, yes, we should comply with that.

3:07:51  
Yeah.

3:07:51  
But also maybe some of them will just export from their from their tool chain SMVX.

3:08:03  
That is fine.

3:08:05  
There are a couple of things now that depends on what your customer or OEM is using.

3:08:12  
Yes, OK.

3:08:13  
Now most of the OEMs are giving their data in the form of PDFs, OK.

3:08:19  
That is one thing some of them gives in the form of Recife.

3:08:23  
Recife is a kind of exchange format for the requirements requirements.

3:08:29  
So I don't remember interchange format.

3:08:32  
Interchange format, yes, requirements interchange format.

3:08:35  
So it is called as a Recife, OK.

3:08:37  
So if it is given, I think most of the tools can directly import the requirements, OK.

3:08:44  
That is the best advantage you can get.

3:08:47  
But again problem is the format which they are using and the format which there is a disconnect then we need to do some kind of customization, minor customization on top of that.

3:09:02  
Now another thing is the Word PDF and Excel sheets.

3:09:06  
So those are the very common documents which are provided by OEMs.

3:09:13  
So that's why most of the tier ones want all kind of capabilities.

3:09:17  
Their tool should be able to import, require Excel, PDF, what whatever given by their OEMs.

3:09:26  
Important thing is sometimes there are multi lingual requirements.

3:09:33  
That is also one of the problem we came across.

3:09:37  
If the German OEMs give you the document in German, German and how you are going to convert it to let's say English or your language.

3:09:47  
So that is also one of the challenge we have.

3:09:49  
So we need to understand that scenarios and how we are going to start it right.

3:09:54  
So that smoothness will give comfort to people like Philip and Alex that yeah, OK, we got the requirements, take all the requirements.

3:10:05  
Now we are going to you know elicit it in system level, right.

3:10:11  
And from system level it will go to the software level.

3:10:14  
So that entire flow, entire traceability will be there in the tool that we need to make sure.

3:10:24  
Yes, I agree.

3:10:26  
Yeah, Yeah, I think Alex is back now.

3:10:34  
Yes, sorry, I had the meeting separately.

3:10:40  
Yeah, So Alex, just to retreat when you were away.

3:10:46  
There are a couple of questions on the cyber security requirements management and functional safety.

3:10:52  
However, Philip gave one reference of Daniel and connect with him for the functional safety and FMEA.

3:10:59  
However, from the cyber security side, do you know anyone that who can help us for cyber security?

3:11:07  
I know Christoph, if you can help us with more details, if not, I can give you what I know.

3:11:14  
So currently we don't have team dedicated for cyber security.

3:11:20  
I am participating in workshop for that in order to share the process with some suppliers and to have someone to to help us with that.

3:11:32  
But currently there is no one to to work on it.

3:11:37  
What we can do is to involve in the discussion colleague from ours to help us.

3:11:45  
It's a system software architect, sorry that is in contact with with the new team for cyber security.

3:11:55  
But if you want some process dedicated for cyber security, we don't have them because we are in, in, we are trying to define them now.

3:12:08  
Yeah, no, not a problem.

3:12:11  
If you are not having any process, that's fine.

3:12:13  
But how you are considering the cyber security aspects in your requirements, that's the important for us.

3:12:21  
Yeah, I don't have experience with that.

3:12:23  
I don't have information about that, how it was done in the past.

3:12:27  
There was a team in in in Reno responsible for that and they had also suppliers for cyber security development and now we will be responsible to manage.

3:12:44  
So we will receive stakeholder requirements from the know, we will have a supplier to implement them.

3:12:53  
But on horse side we will responsible to, to let's say follow up the implementation and to to check or just let's say to deliver this cyber security.

3:13:09  
Yeah, but we don't have experience with that.

3:13:13  
We don't have now dedicated people for that.

3:13:16  
Yeah, we are in the process of building a team for that.

3:13:22  
OK, OK, no worries.

3:13:23  
Until I'm not the best person to answer to this.

3:13:27  
If you want, we can involve Nastasik Catalin to to help us with that.

3:13:34  
Christoph, if you want to add something.

3:13:37  
Yeah, I know you, you said it very, very clear.

3:13:40  
So yeah, today we don't have, we don't have a team at all.

3:13:43  
So it was always on the Renault side.

3:13:44  
There was a dedicated entity and basically it was the supplier.

3:13:50  
It was more sure with the with Tesco Scheffer who integrated the Reno requirements on cyber security and we did the validations, but the IT was not on mechanical side still not.

3:14:04  
So it's something new for us conference.

3:14:12  
OK, Yeah, thanks.

3:14:14  
Thanks Alex and this SO.

3:14:22  
OK.

3:14:22  
So our action items are to connect with cyber security and functional safety, yes.

3:14:34  
OK.

3:14:36  
Then then have a discussion with systems engineers and software, software system marketing, software Internet and if you get get a hold, get a hold of this Ms which Philip was mentioning.

3:15:00  
So they are authorized to take the requirements from the OEM, right, Right.

3:15:05  
So, so same thing right, System marketing, yeah if we can have half a conversation with there, I think that will sufficient.

3:15:15  
OK.

3:15:15  
This thing like edit software Architect, Yeah, so and Alex, if we can share the checklist, you know, while writing the requirements you said you have some standard, right.

3:15:46  
So if we can check share that checklist along with the mandatory attributes which are mandatory attributes, I think that will be you can share with the Stefan as well.

3:15:57  
Yes, yes, I I will share them.

3:15:59  
Yeah, yeah, together with the standard that we have for right any requirements.

3:16:06  
So, yeah, OK, yeah.

3:16:26  
OK.

3:16:26  
I think we're a good only The thing is that Stephen and Radhu will share the question as with all of you the same same thing we discussed in today's call.

3:16:44  
If you have any additional information available with you, you can definitely share with us.

3:16:51  
I think that will help us to come up with some good use cases for our evaluation.

3:17:02  
OK, OK.

3:17:07  
So any last comment anyone have before we close this session, Alex?

3:17:17  
We also spoke about some weak points that we have.

3:17:21  
We, we consider, we manage, we, we mentioned the link between system and soft requirement.

3:17:28  
We link, we mentioned the the link between let's say high level stakeholder requirement and system design document or STR and the PBS that we use which is a different PBS copy.

3:17:46  
Well, it should be a file, a Fidel copy or an exact copy of the of the other PBS.

3:17:53  
And yeah, we have also mentioned all these.

3:17:56  
But if you have some other weak points that you want to underline important for me during let's say the daily activity.

3:18:05  
So we are missing from the upper to the lower level, yeah.

3:18:10  
So the review process between stakeholder and system requirement, system requirements, we don't have a process defined and documents detail in the in detail defined for the customer requirements import like you said at the beginning.

3:18:31  
So something specifically process, you know with a review on attributes and state flow definition between system and customer, let's say when a requirement is not accepted that system level in the ship that it is defined by the customer.

3:18:50  
So we don't have that currently and it is hard in terms of traceability to group them on NF and change request.

3:19:02  
It is what we discussed and from upper level, let's say now between system and software, it is what Philip said for trustability.

3:19:10  
We are not able because we don't have the software requirements indoors.

3:19:14  
We do not, we are not able to link them it easily, let's say, because we can do that.

3:19:20  
But we should go through several tools or documents, yeah, PowerPoints, SVM, doors, yeah.

3:19:32  
And from the software level to software unit component.

3:19:36  
So to MATLAB again will be nice to have this in the new tool.

3:19:42  
Because if there is a issue currently on the identified software unit level and we are using the MATLAB specs for that.

3:19:54  
When there is an issue at that level, we are not able to trace which are the software and system and change request impacted by that.

3:20:03  
To export to, let's say, evaluate the workload to evaluate the impact on that.

3:20:11  
So it will be important to have this traceability from the upper level to the software unit level in MATLAB.

3:20:19  
Yeah, and this was discussed with Code Beamer and the source as well.

3:20:27  
But for us it will be a key point at and it will help us to evaluate the the the impact also.

3:20:36  
But again, it will help a lot in our bug analysis because each time there is a issue, a lot of work needs to be to be done to identify which are the requirements impacted, what are the software variables to check and things like that.

3:20:59  
By having this traceability, will it will be easier?

3:21:03  
Yeah to to do it.

3:21:05  
And after that, in order to improve the documentation and traceability, it is what we discussed.

3:21:11  
Currently all the technical details are treated through emails or PowerPoints and it will be good to have items, tasks linked directly to emails, to know when there is a requirement to be updated, when there is an issue and to which requirement is linked to have possibility to document the iterations on the requirement and things like that.

3:21:41  
I'm saying that because on I can give you the PTC integrity example there, you can do that.

3:21:50  
But from what I see code beamer is even or it maybe that's all.

3:21:54  
But I with the salt, I'm not so familiar.

3:21:59  
These tools are it's better than than doors where now we are not able to to add any evidences, any history of discussions and things like like that.

3:22:13  
Yeah, yeah, yeah.

3:22:18  
Sorry for the the long or even the validations like modeling the loop, you know modeling the loop validation that we're doing for new software evolution IES correction and so on.

3:22:31  
Today it's not Word document in terms of trasability in one the tool, yeah, in terms of trasability, validations and so on in terms of trustability, the validation flow.

3:22:47  
So the the validation at each level needs to be discussed as well because currently this part is managed by the another system engineer responsible it's least position and usually is done again through meetings, emails, some PowerPoint synthesis and we have the dedicated SDR process for that.

3:23:20  
But the the work needed to have access to all these details after one year since development is really is really hard to do that.

3:23:37  
Yeah, Yeah.

3:23:41  
OK.

3:23:46  
Yeah.

3:23:46  
Thanks Alex for your comprehensive feedback.

3:23:50  
That's that's really important.

3:23:52  
Yeah.

3:23:52  
Thank you for for support for your help.

3:23:55  
OK.

3:24:02  
And now you are at Tito or at DBC.

3:24:10  
So you are in Quest.

3:24:12  
Sorry.

3:24:13  
Yeah, OK.

3:24:25  
And you will be there tomorrow as well, I think.

3:24:32  
No.

3:24:33  
OK.

3:24:46  
OK.

3:24:47  
I believe it was a good discussion and thanks everyone for your valuable inputs.

3:24:55  
As I said, there will be a good question of I think Radu and Stefan will float to all of you.

3:25:08  
I think it's a Google form, right?

3:25:11  
Yeah, there are some links to some Google forums because I've made one for each each point, OK, Like variant management, project management for each 1I made a different form, OK.

3:25:22  
And I've already sent them to everyone's email.

3:25:27  
OK.

3:25:27  
And also send them to your team colleagues, so we can get also their input.

3:25:34  
Even though they haven't been in this meeting, they can still point their view on the issue.

3:25:44  
Yeah, I think you stick.

3:25:56  
We want to, Yes.

3:25:58  
So I prefer to stop here.

3:26:01  
And OK, if you have any remarks to share, you can send it to me and I will share with Jadi.

3:26:15  
OK For me.

3:26:16  
Thank you.

3:26:17  
OK, Thank you so much.

3:26:19  
Thanks for your time.

3:26:19  
Have a good day.

3:26:20  
Have a good day.

3:26:21  
You too.

3:26:22  
Bye.

3:26:22  
Have a good day.

3:26:23  
Thank you.

3:26:24  
Bye.

3:26:24  
Bye.

3:26:25  
Bye.