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Survey Results VDA-AIAG Handbook (March 2020)

In this survey we wanted to know what experience you and your company have had so far with the VDA AIAG harmonized FMEA handbook, which was published last year in 2019, and how you deal with it. For this purpose, we asked 9 questions about selected changes and innovations of the new FMEA guideline. The survey was conducted between March 16 and March 31, 2020 and was deliberately interspersed within FMEA moderators in German-speaking countries. The survey was done in German language and translated for this publication.

A few more data: 104 responses with 100% completion rate. The average time taken was 3 minutes and 36 seconds.

We would like to thank all survey participants for their valuable feedback!

Enjoy reading the highly interesting results!

Yours,

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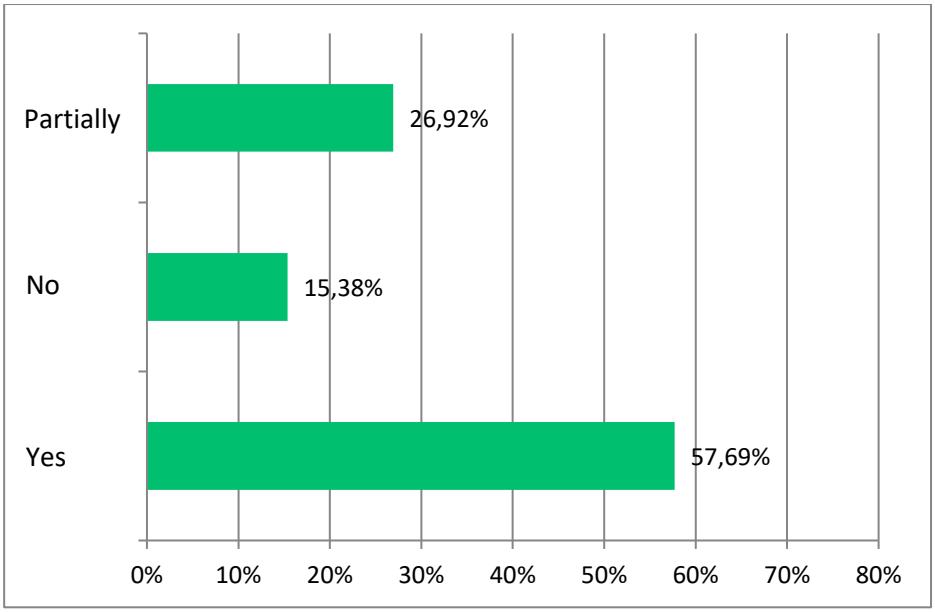
Question 1: Do you carry new FMEA projects according to the new AIAG-VDA handbook?

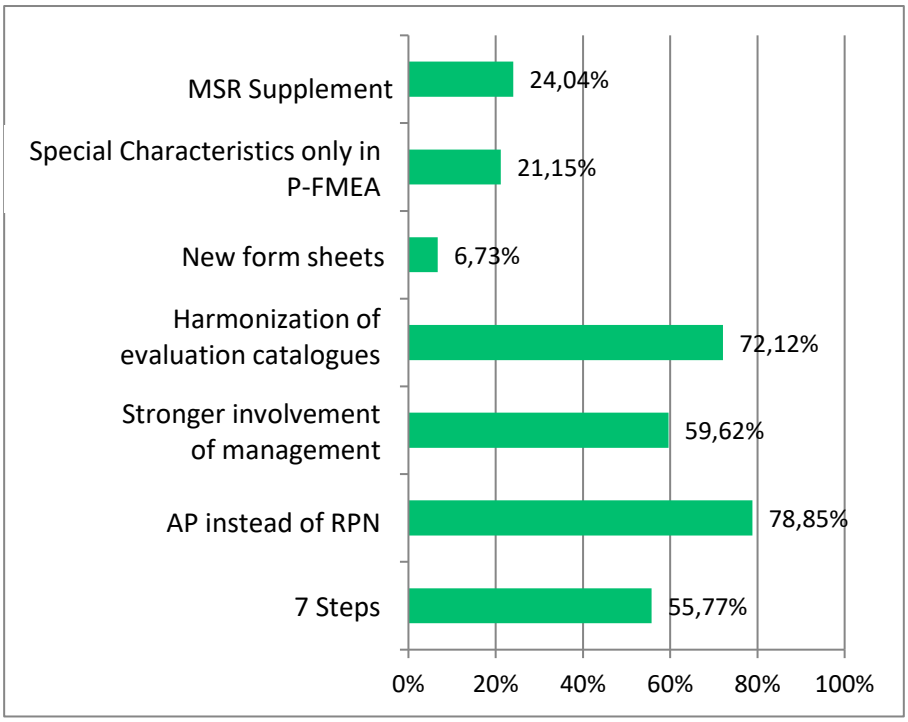
Almost 60 % already work according to the new method description.



We are pleased to see that most companies are already working according to the new standard. We also consider the answer "partially" to be okay, since new FMEAs, which are based e.g. on family FMEAs, can still be processed according to the "old" procedure. The fact that after almost one year approx. 15% of companies still do not work according to the new standard may sound like a lot, but since some of the survey participants do not come from the automotive and supplier industry and are therefore not bound by the guideline, this value is also acceptable.

Question 2: What innovations do you consider useful?

The new handbook has brought many innovations. We wanted to know which ones you consider useful. The AP and the harmonization of the evaluation catalogues are very appreciated. The new form sheets are at the end of the list. The form sheets make everyone more concerned about their applicability and implementation.



It is understandable for us that the MSR supplement is only useful for a small part, as it is mainly relevant for OEMs and suppliers who develop safety-relevant electronic systems.

Regarding special characteristics, the majority do not consider it useful that these characteristics should only be documented in the P-FMEA. In our opinion, however, the omission is methodologically correct according to the current state-of-the-art, since the D-FMEA "only" deals with “potential” special characteristics and many companies manage the consistency in a separate "process of special characteristics". For those who still want to carry the special characteristics in the FMEA, an optional column "Filter Code" was created.

The new form sheets are not popular. Although they can represent the system and function analysis, they are a challenge for moderators as well as for software manufacturers due to the vast number of fields and columns. We recommend working with suitable FMEA software instead working directly within the form sheet!

More than 70% of the respondents consider the harmonization of the evaluation catalogues to be useful. So do we! Nevertheless, we still strongly recommend every company to add a column with company-specific examples to the catalogues.

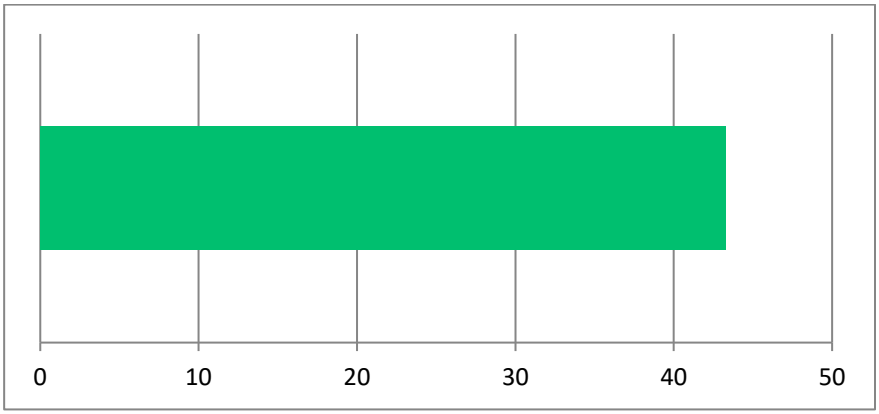
Almost 60% of the respondents also find the increased involvement of management to be useful. Here we expected a higher number, as we believe this provides clarity, takes the burden off the shoulders of the moderator and project team and high risks are communicated where decisions can be made. We are even of the opinion that here the benefit and thus also the acceptance of FMEA can be significantly increased through hierarchical communication.

The greatest consent, almost 80%, was given to the AP instead of the RPN. It had been known for decades that the RPN has only limited significance for determining risks and that RPN thresholds are completely meaningless and even have a detrimental effect on the analysis. Now, the frequently encountered "number embellishment" may have come to an end. The analysis model will be more realistic and honest, because it will finally be possible to communicate risks better, which will lead to a better risk communication and culture. The suitability of the AP as a reliable assessment method remains to be seen, but we are confident. Nevertheless, we always recommend to additionally consider the risk matrices for optimization.

A bit more than half of the respondents (55%) consider the 7-step method to be useful. Most good moderators have already worked with these 7 steps before the new handbook. Without reasonable preparation and presentation of results, an FMEA project can hardly lead to the desired success, or only with considerable additional effort.

Question 3: How many of your customers still demand an RPN threshold?

Shockingly, an average of 43% of respondents' customers still demand an RPN threshold.

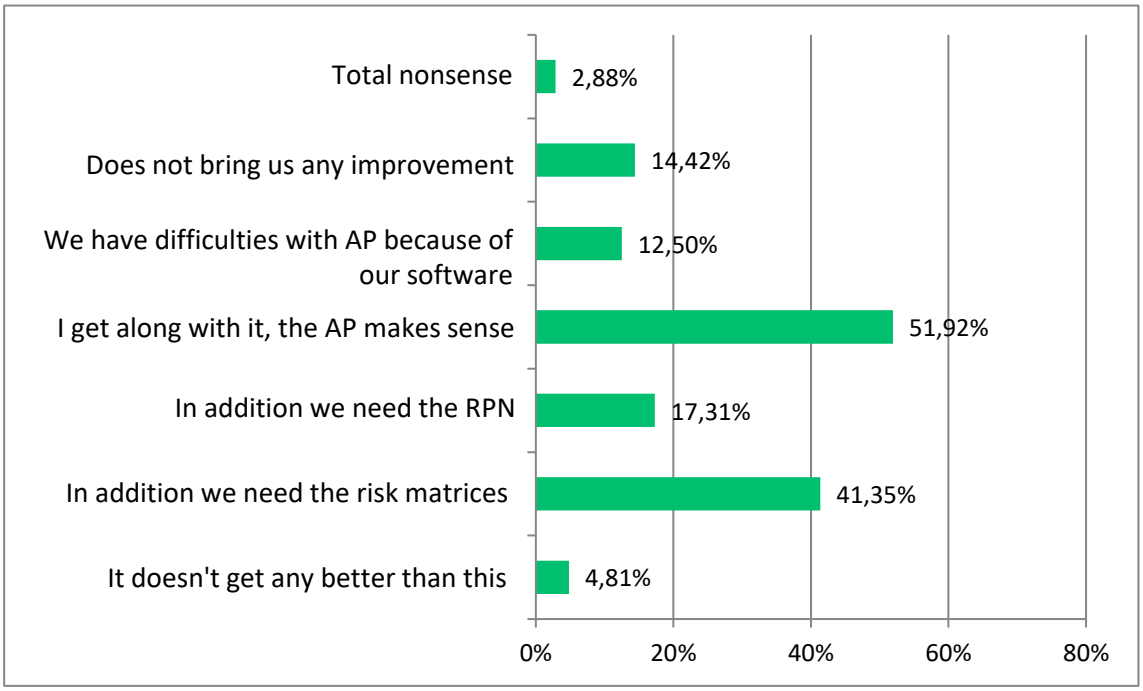


Apart from the non-automotive customers who are not bound by the directive, this number is unfortunately too large. This means that good approaches are sometimes nipped in the bud, good analyses are subsequently rendered unsuitable and lies are told when talking about risk assessment. All responsible risk managers will have to contradict this backward-looking, and completely stupid, demand from customers in the coming weeks. Customers must be informed about this from all sides.

We urgently recommend that the associations (AIAG, DGQ, VDA, VDI, TÜV, ...) prepare information documents. Work actively internally with the AP and the risk matrices for a realistic and target-oriented evaluation of your risks and try courageously to make the advantages clear to your customers.

Question 4: What do you think about AP?

The AP is considered by almost 52% to be useful and by almost 5% to be the ultimate analysis scheme. Only just under 3% consider the AP to be nonsensical and 14% cannot apply it in their environment.



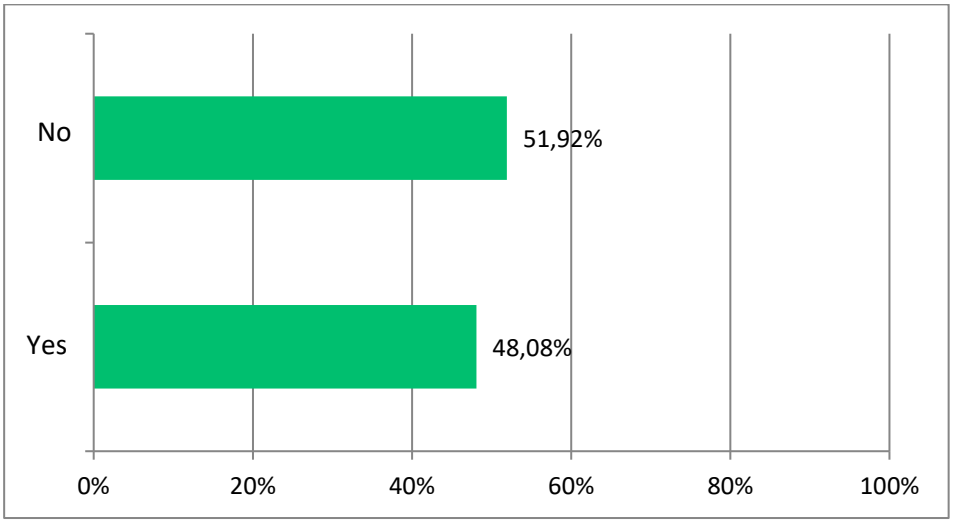
We consider the AP to be a useful method to find out quickly, correctly and clearly where further measures are necessary.

Unfortunately, the AP does not show us what types of risks are involved. Therefore, we recommend, like about 41% of the respondents, to use the risk matrices additionally.

One eighth of the respondents state that there are problems with the software because of the AP (or that the AP simply cannot be mapped by the software). We can only note that all established FMEA and CAQ software manufacturers have assured us that they will integrate the AP in the short term or have already integrated it.

Question 5: Has the new handbook improved the interfaces between the in the parties involved?

Respondents disagreed on the question of whether the new handbook improves the interfaces between the parties involved.

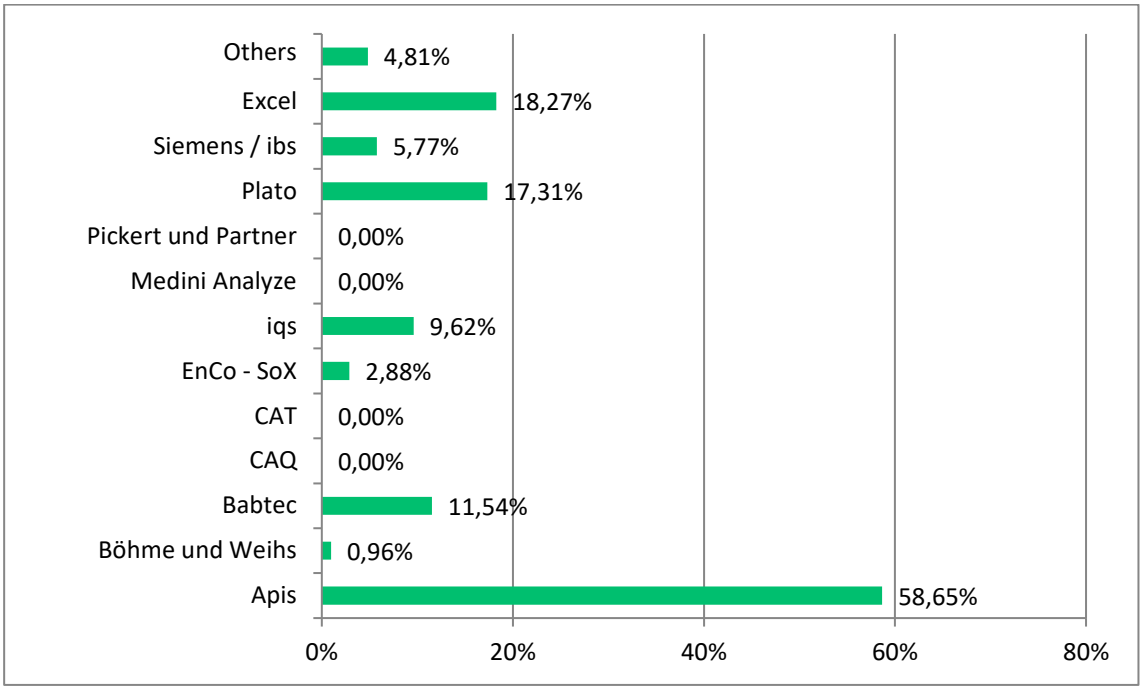


We think the new handbook provides a good description of the interfaces to customer, supplier and management. Also the interface between D-FMEA and P-FMEA is well described and graphically represented.

The 7 steps, which with the presentation of the FMEA results also represents an interface between the parties involved, could be described in more detail. Also the interfaces to the control plan are not described in detail.

Question 6: Which software do you use for your FMEA analyses?

This result shows the distribution of the FMEA software among the participating moderators.



In addition there is in usage:

1 % Own software

1% FIPAQ

1% CIMOS

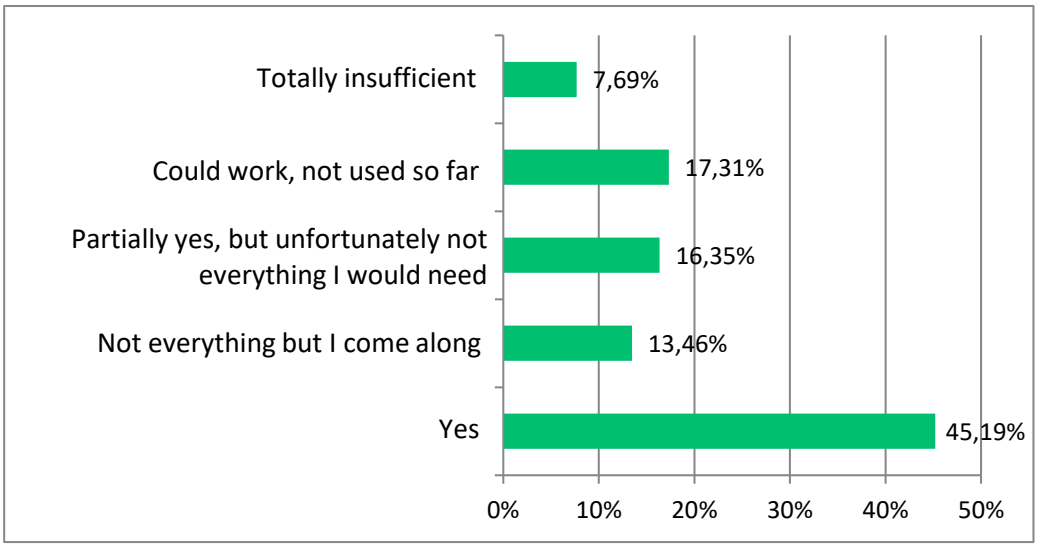
Could this also tend to represent the market distribution?

Or do we only find the active and interested moderators in these applications?

What does this say about the activity and affinity of the users of the software not mentioned?

Question 7: Is your analysis software able to cope with the new requirements?

45% of the respondents stated that their software can already handle the new requirements. In contrast, just under 8% stated that the functionality of their software was completely inadequate with regard to the new directive. The remainder already have some functionality that is already sufficient for one person and not enough for another.



We were pleased with the results that so many have already implemented the handbook or are on the right track.

According to our information, all established FMEA and CAQ software manufacturers deal with the implementation of the new requirements. Some have already started with the appearance of the pre-version handbook, others have been waiting for the final release of the handbook and therefore will probably take a little longer.

We also know that some CAQ software manufacturers will not implement topics like MSR-FMEA with hybrid networks for the time being, but want to make this dependent on the demand of their customers.

Question 8: What would you like to see changed in the handbook?

Of 104 respondents, 74 answered and three answers were given particularly frequently.

1. Simpler, clearer, smaller and above all unambiguous form sheet, without several variants desired. We can only agree with this.
2. Displeasure at the omission of the special characteristics from the D-FMEA. From our point of view, you no longer need to document the special characteristics in the D-FMEA, but you may still document it here. The special characteristics process is an independent process that you define for your company.
3. Desire for a checklist (e.g. as in the old VDA or in the pre-version of the handbook)

Some want to see less and some more in the handbook. The answers here roughly balance each other out. About 4% do not want to see the MSR in the handbook because it seems to be confusing. Comment: The MSR is exclusively for safety relevant system analyses and is only used there (although it is also urgently needed there - so please leave it as it is).

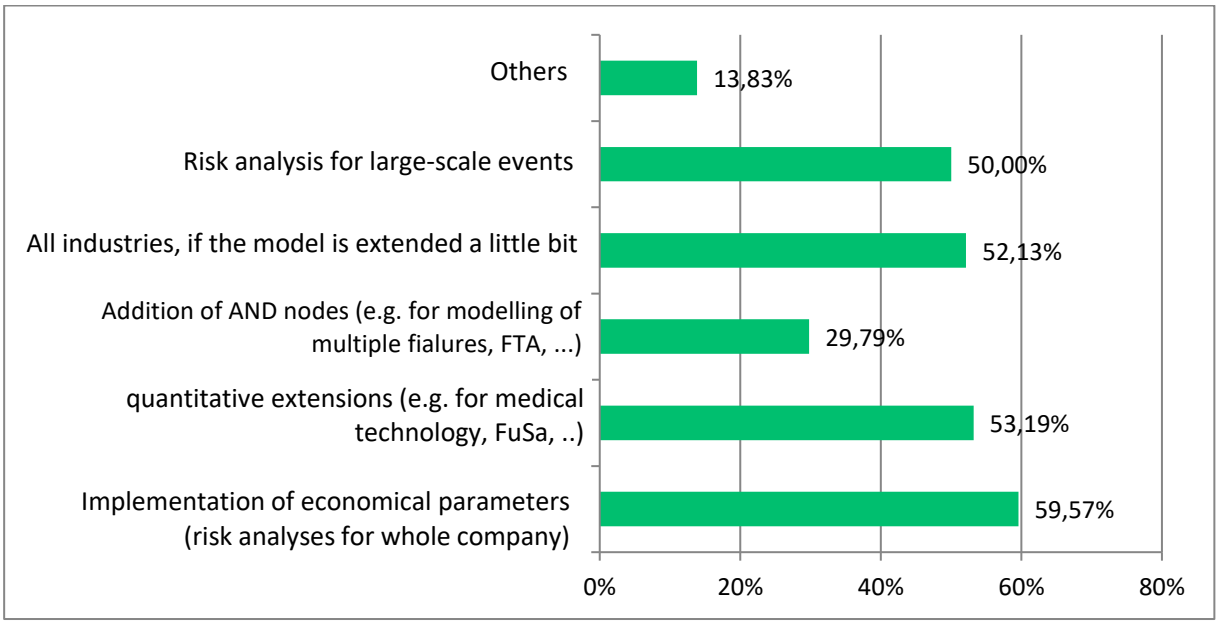
Here is an excerpt with some additional interesting answers (literally). The selection was made by my personal assessment, but does not reflect our opinion.

1. Clear commitment that the analysis of value-adding processes makes the most sense.
2. That the graphics are clearer, better quality images.
3. Even greater involvement of management
4. How to describe the content of the 7 steps in more detail. Conversion of boundary definitions into structure, syntax for functions and failure possibilities
5. Even more examples
6. Suitable form sheet layout in Excel, undoing of the output download templates - not applicable!
7. Clearer, easy-to-use valuation catalogs
8. Identification of the special characteristics in the DFMEA or alternatively a binding process.
9. Inclusion of FMEA in QM landscape.
10. A limitation of the process description to the actual risk analysis. The preparation of the input (e.g. B/B diagram) should be described in a PDP. Consequently, only the quality of the input would have to be checked in an FMEA.
11. Something for a real risk assessment, like the SxO matrix
12. best practices
13. Supplement FMEA Review List as in the former VDA
14. Extensive chapter on software FMEA
15. An explanation of the transition from FMEA to the control plan would be nice.
16. A description for inserting complaints from the 8D Report.
17. Addressing the issue of dealing with interfaces
18. A complement to technical risk and not just a prioritization
19. SCs for Electronic detailed
20. That the OEM'S are more committed.
21. Adjusted matrices for the changed O/D ratings compared to VDA 4.3
22. Integrate approach via RMR (Risk Matrixbased Ranking)
23. Coupling P-FMEA with control plan
24. Proposal for report to management / customer
25. Occurrence rating for the failure effects (similar to approaches in medical technology)
26. Description of an improved handling of multiple errors.

Question 9: Do you think the FMEA is also suitable for:

With this question we wanted to know how competent and capable the method is to be developed further.

In each case, between 50 and 60% of those surveyed also consider FMEA to be a suitable method for risk analyses for major events, all other sectors, quantitative supplements and risk analyses for entire companies.



We also have already successfully applied FMEA in areas other than our own and feel confirmed by your survey results to further develop the method in these directions.

Other answers (these do not necessarily reflect our opinion) were

1. Design of escape and rescue routes and positioning of protective measures (fire extinguishers, breathing masks, fire blankets, first aid kits, etc.) Also for road construction, traffic light control, etc. in order to be able to simulate the traffic situation more accurately with the help of FMEA. Once the software has been adapted, the FMEA methodology could be used for all kinds of areas or industries where no one currently sees a need.
2. Innovations cannot be assessed with FMEA.
3. NO, FMEA is from the basic approach something for “chip makers” and “sheet metal benders”! For other areas (like software) there are better methods!
4. Basically all risks can be analyzed with FMEA
5. Wherever clear requirements with characteristics (functions and features) have been defined and not several errors/causes together cause one main error.
6. NO. There are better ways to do that. Of course, you can expand and extend them. But the world has not waited for this.
7. Control of all measures within a project.
8. Risk analysis for events, even in a modified form quite useful
9. Authorities already work with FMEA (org handbook fmea).
10. Legislation
11. Risk assessment of business processes

Once again we would like to thank all participating moderators!

Yours Martin Werdich (www.FMEAplus.de)