FMEA plus AKADEMIE

We hope you all had a good and healthy start into the new year 2021!

The past year has brought quite a few surprises and limitations for all of us. And even though this year doesn't really start any different than the last one ended, we are convinced that some normality will return in the course of this year.

Not only in our professional and private everyday life, but also in the FMEA methodology we hope there will be changes.

One of them is the **structural network**, which we would like to introduce to you in this newsletter.

M. Eng Julian Häusser

The structure network

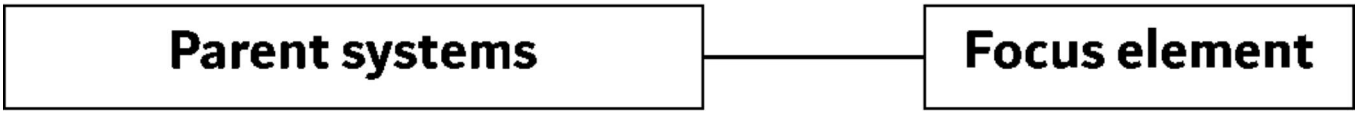
For decades, the structure tree has been taught in FMEA methodology for structural analysis. With this article we would like to introduce the structure net. This would be, in our opinion, a useful evolution for realistic FMEA models.

State of the art is a structure tree, whose root element is the highest structure level. However, since functions and defects are modeled in nets, structural inconsistencies arise in some cases. These in turn often lead to inconsistencies, long discussions and compromises, which are not in the sense of a complete, conscientious and goal-oriented analysis. After all, the more realistic a model is, the more likely it is to be accepted by those involved, provided it does not appear too complicated.

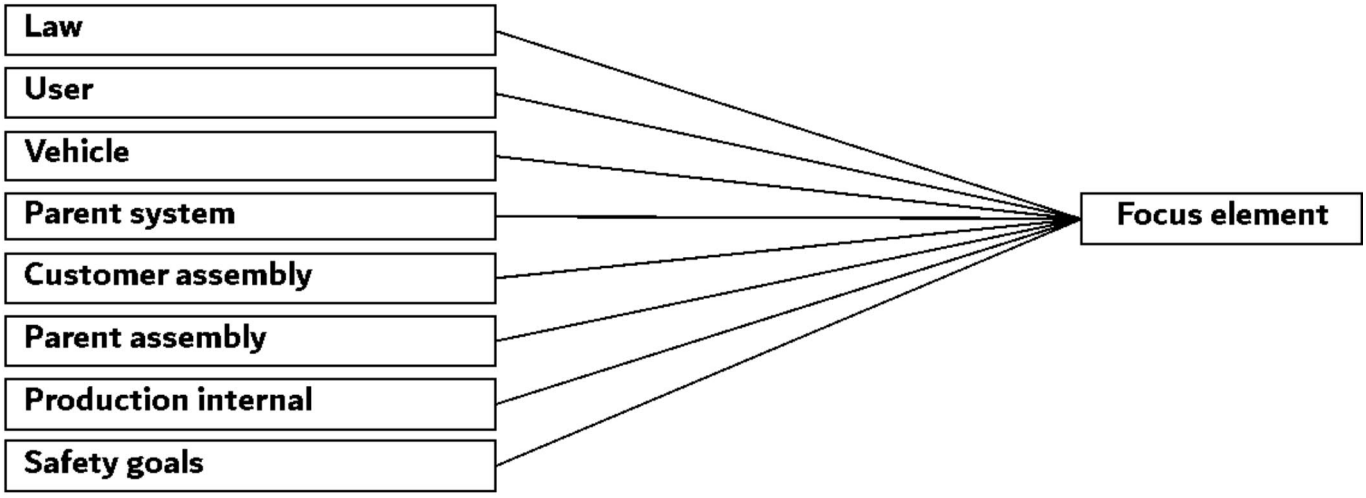
Example effects:

One of the problems a moderator has when modeling consequences is that several consequence levels have to be considered in one root element.

However, this would be confusing in the modeling, not representable in the form and not representable in many softwares. Therefore, each presenter has developed their own approach to how they implement this problem. The most commonly used solution to this problem is to combine the sequence elements in the root element.

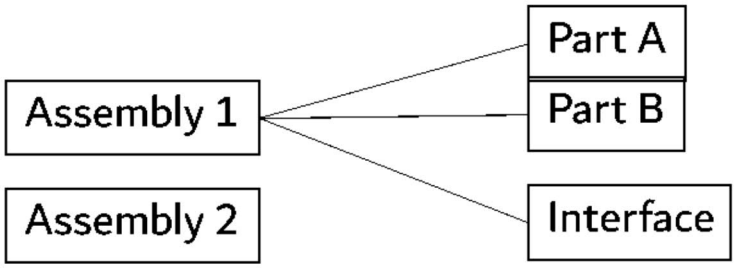


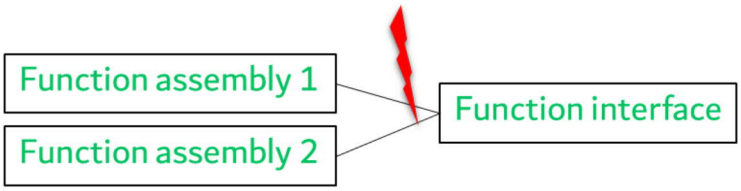
In a structure network we can clearly and practicably represent the system elements of higher hierarchy with their functions individually.



Example of cause levels:

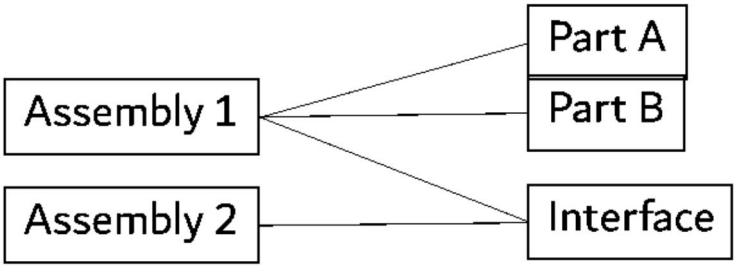
When modeling function, and consequently fault, networks with multiple levels, the moderator has the problem that a cause function can be linked to functions of several higher level system elements. Although this can usually be represented in the software, it inevitably leads to the violation of structural integrity in the case of structural trees and, in addition to error proneness, also leads to unnecessary discussions.



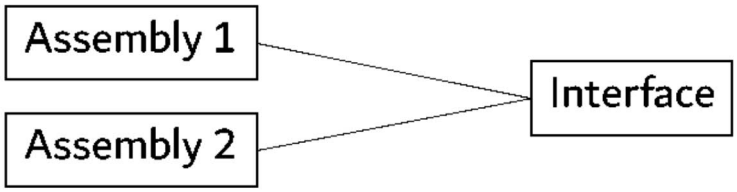


Here, too, moderators apply various fallback solutions in practice. The worst one is that the rule "A system element may be noted only once in the structure tree" is ignored and one and the same cause element is present several times.

A structure mesh would completely eliminate this problem due to the more realistic modeling.



A counter-argument could be: "Such a structure net becomes completely unclear". But, as in the function and error meshes, it is possible to focus on one element. The clarity of complicated models is thus achieved by "intelligent hiding" and corresponding focus as before.



We believe a structure network is necessary to maintain structural integrity and avoid unnecessary extra work. In addition, it would only be consistent to use a structure network if error and function networks are already established.

What is your opinion? Write in our blog on Blog: FMEAplus Akademie

A detailed article with further arguments and discussion feedback will be published by us in the next magazine "FMEA-konkret" in summer 2021.

Current FMEA seminars/workshops in germany and Austria

For FMEA seminars in Austria you can register directly under the following links:

FMEA Basics 3 days - www.tuv-akademie.at/kurs/fmea-fehlermoeglichkeits-einflussanalyse

FMEA User Apis - www.tuv-akademie.at/kurs/ausbildung-zumr-zertifizierten-fmea-userin-tuevr-mit-software-apis-iq/

FMEA User Plato - www.tuv-akademie.at/kurs/ausbildung-zumr-zertifizierten-fmea-userin-tuevr-mit-software-plato-e1ns/

All other dates for FMEA seminars and workshops in Germany can be found at:

www.fmeaplus.de/en/events.

Note: All trainings, seminars, consultings and coachings are possible **online.**

Soon we will continue with the popular online lecture series!

The online lecture series has been extremely well received. The feedback was very positive.

For this reason, we are already working on further online lectures with extremely important FMEA topics. Stay tuned.
The dates will of course be announced in good time.

Take advantage of the opportunity to impart knowledge via our online lecture series and really get started with FMEA!

You are welcome to send us your suggestions for topics at any time via info@fmeaplus.de.

New on our homepage - FMEA Blog

In addition to the FAQ and the glossary, we are expanding our homepage with a blog section in order to be able to conduct interesting and, above all, for you, multi-value FMEA disscussions in the future.

Don't hesitate and share your thoughts with our FMEA community via our blog!

Blog: www.fmeaplus.de/en/knowledge/blog

FAQ: www.fmeaplus.de/en/knowledge/faq
Feel free to send us your questions as well. We will be happy to include the most common ones in our FAQ.

Glossar<: www.fmeaplus.de/en/knowledge/fmea-glossary
Feel free to link our glossary to your know-how page.
We will be happy to add further terms - a simple mail is sufficient.

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