



# FMEA TRAINING AND FACILITATION

## Background

FMEA is an analytical methodology used to ensure that potential problems have been considered and addressed throughout the product and process development cycle. FMEA helps to:

- Discover the potential failures, their potential cause mechanisms and the risks designed into a product or process;
- Develop actions that reduce the risk of failure;
- Follow-up and evaluate the results of actions on the risks that were discovered.

A Design FMEA (DFMEA) is performed prior to the completion of the design of the product. A Process FMEA (PFMEA) is performed prior to the release of the design for the process. PFMEAs should ideally be conducted when DFMEAs provide special characteristics or when new process technology is planned. It is critical that a FMEA be performed with sufficient time to take counter measures against the risk and still capture the changes within the design before its release.

A core team of three or four people with supporting Subject Matter Experts (SME) conducts FMEAs. This group creates the Cross Functional Team (CFT). Ideally, the CFT should be selected from disciplines that have a slightly different view of the product or process under investigation. The synergy created by the CFT is what makes FMEA so powerful.

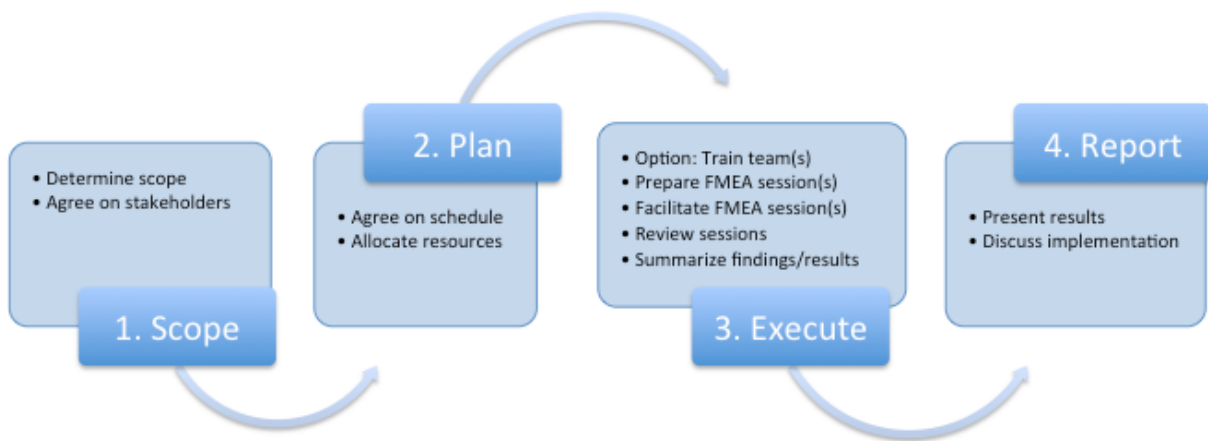
## Our offering

Failure Mode and Effects Analysis (FMEA) can be confusing to teams when they first start out. Confusion causes teams to struggle and sometimes misinterpret the use of FMEA.

We can offer help here by training your people up-front and/or facilitate the FMEA implementation. This is beneficial to your organization, as it helps reducing the time to conduct FMEA sessions and at the same improves the quality of the final outcome. Training and facilitation provides your team(s) with guidance and direction.

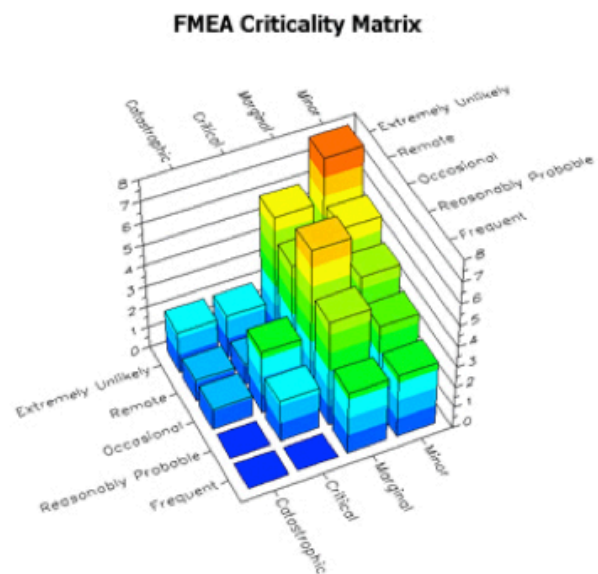
## For further information

Please contact us at T: +41 33 733 4682 or E: [info@se-cure.ch](mailto:info@se-cure.ch).



Typical phases for “FMEA Training and Facilitation”.

Item and Function	Potential Failure Modes	Potential Effects of Failure	SEV	Potential Causes of Failure	OCCLUR	Current Design Controls	DETECT	SEV	OCCLUR	DETECT	RPN
Processor	Bad Power	Overheats & or more systems	4	Blow Power problems or falling	1	None	1	4	1	1	4
LED Communication	Incorrect or absent values on LED	Incorrect or absent	3	Software Error	1	Error checking software	1	3	2	1	6
Power Overload	Failure in other systems	Spoke in other systems	4	Spoke in input voltage or current	2	None	1	4	2	1	8
LED Communication	Blow speed & incorrect or absent	Blow speed & incorrect or absent	4	Software Error	2	Error checking software	1	4	2	1	8
Communication to board	Absence of LED and LEDs	Solder became hot	4	Solder became hot	1	None	1	4	1	1	4
LED	Incorrect values displayed	User will not have knowledge of distance traveled	4	Software Error	1	Error checking software	1	4	1	1	4
LED Driver	Incorrect signals sent to LEDs	Incorrect signal will be displayed	4	Software Error	1	Error checking software	1	4	1	1	4
LEDs	LEDs burnout	Incorrect signal will be received or absent	4	Too much current sent through LEDs, LEDs exceed expected lifetime	2	Software to control current levels	1	4	2	1	8
Controller on Btu	Signal to pump controller are incorrect or absent	Speed and/or flowmeter values are incorrect	4	Voltage regulator	2	Voltage regulator	1	4	2	1	8



Snapshot showing example DFMEA outcome.