



Effective hazard analysis method through the integration of STPA & FTA

2022. 9

VWAY Co., Ltd. **VWAY**

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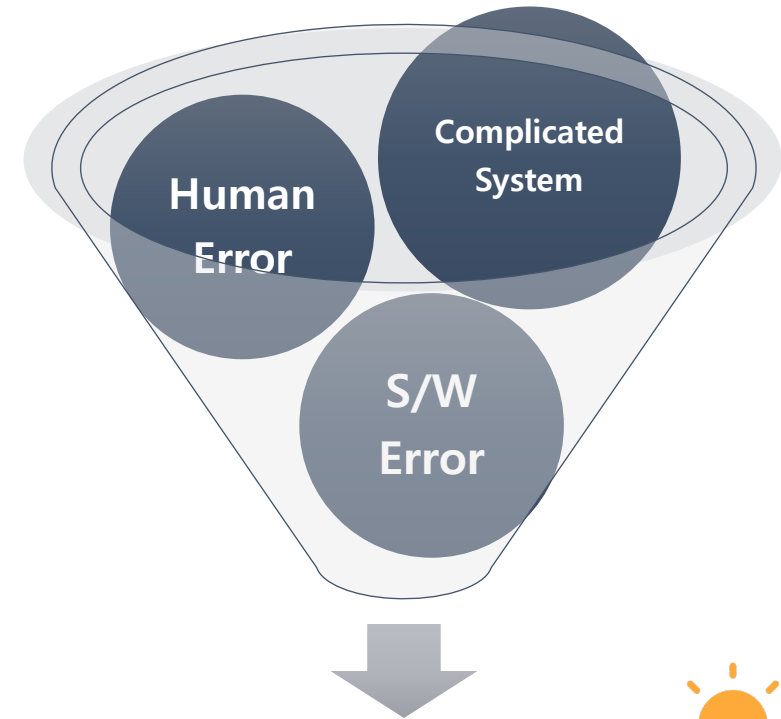
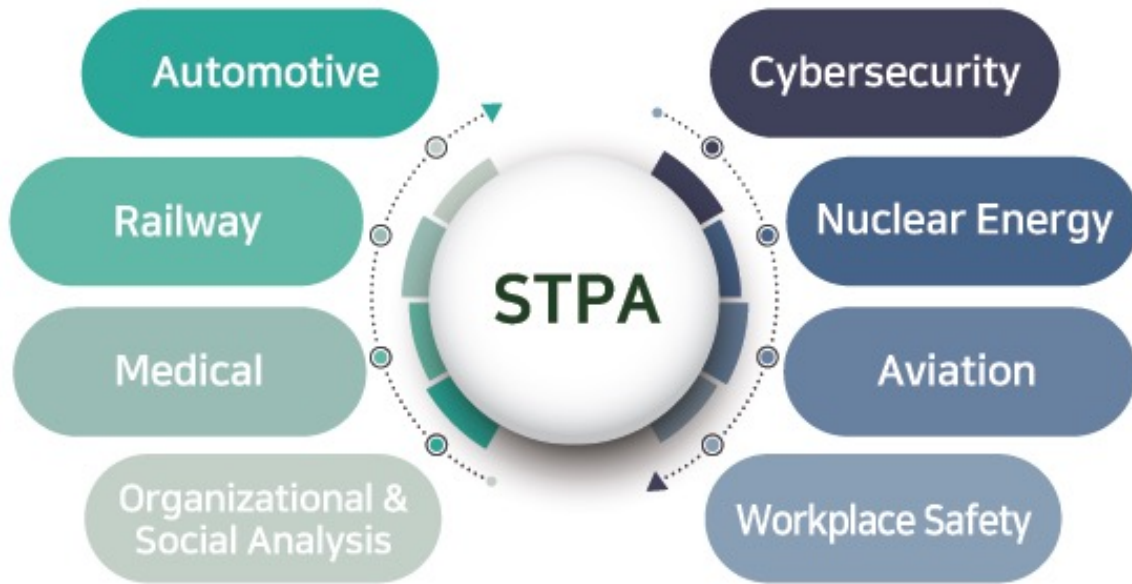
SW Safety Technologies
Global Leader



- 01** Introduction
- 02** Integration of STPA & FTA
- 03** Conclusion



STPA?



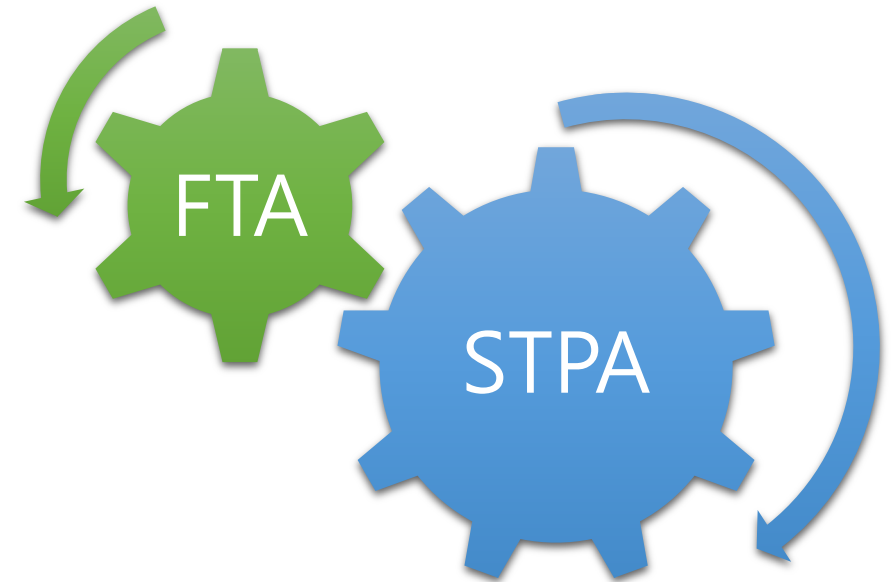
STPA Safety Analysis 
Cost Reduction and Effective Safety Management

Concepts?

- There are many safety analysis used in many industries in common.
- We would like to integrate STPA & FTA methods into one.



Safety Analysis Methods

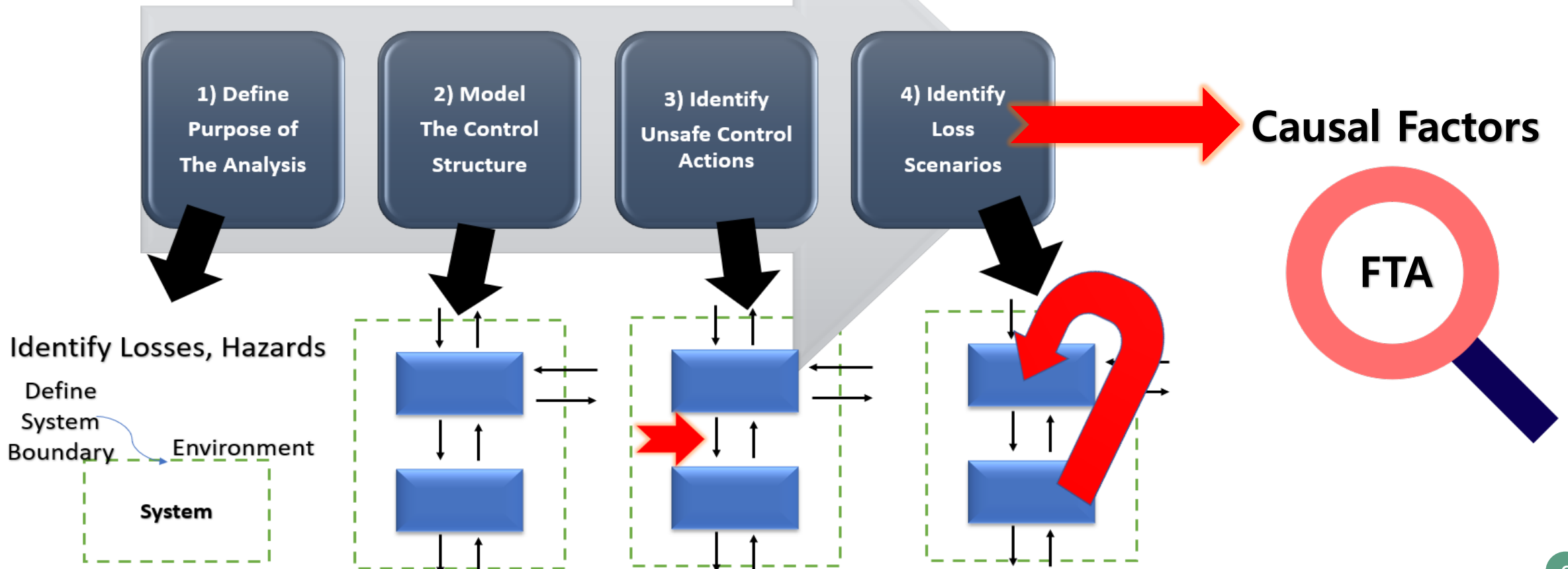


Integrated Method

STPA's Steps

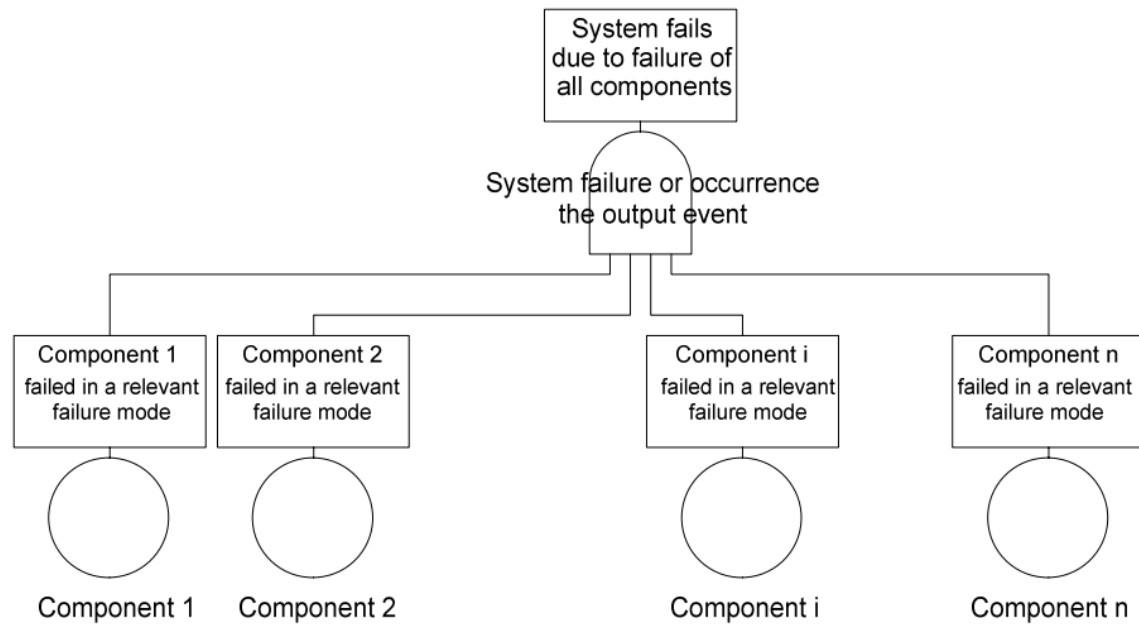
- After identifying Loss Scenario, we are about to apply FTA method on finding Causal Factors.

STPA



FTA Application with STPA

Fault tree analysis (FTA) is concerned with the identification and analysis of conditions and factors that cause or may potentially cause or contribute to the occurrence of a defined top event. With FTA this event is usually seizure or degradation of system performance, safety or other important operational attributes, while with STA (success tree analysis) this event is the attribute describing the success.

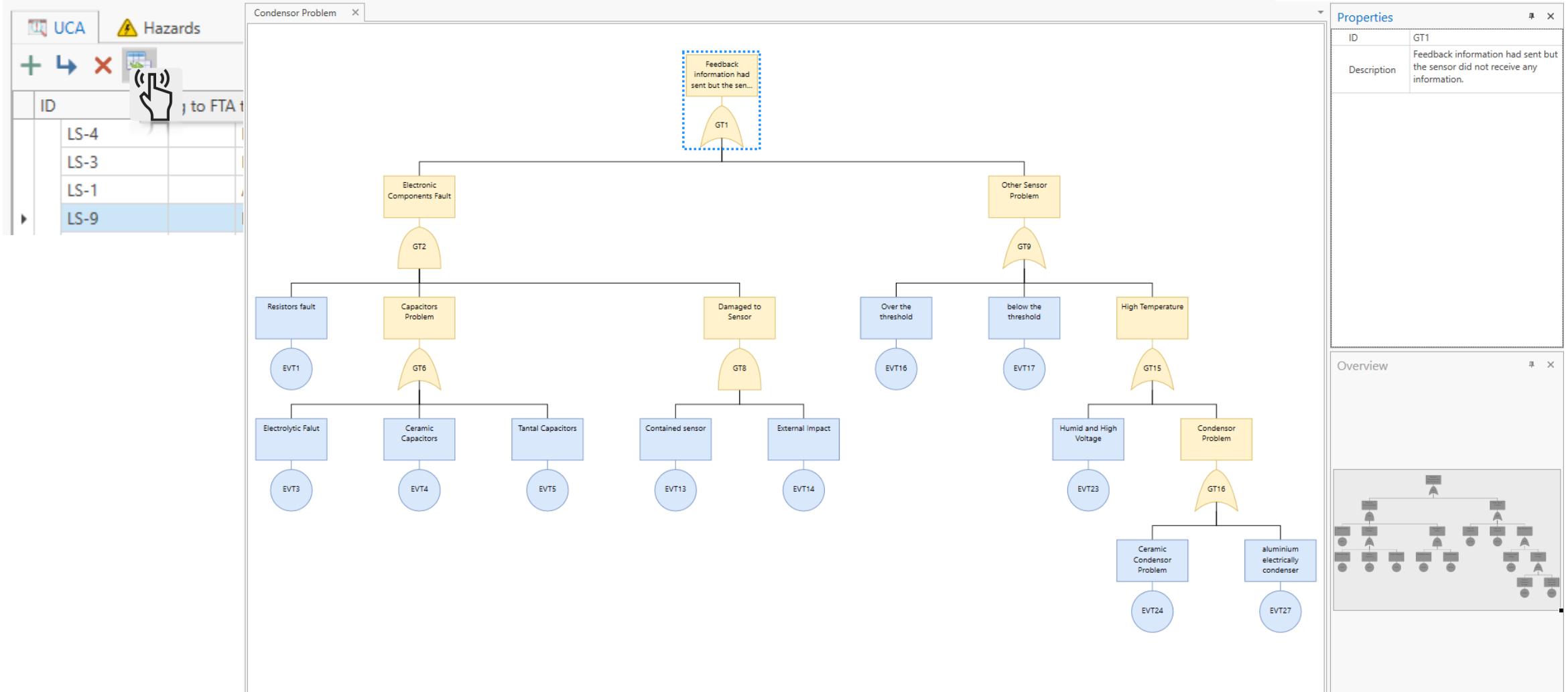


IEC 2120/06

2. Integration of STPA & FTA and FMEA

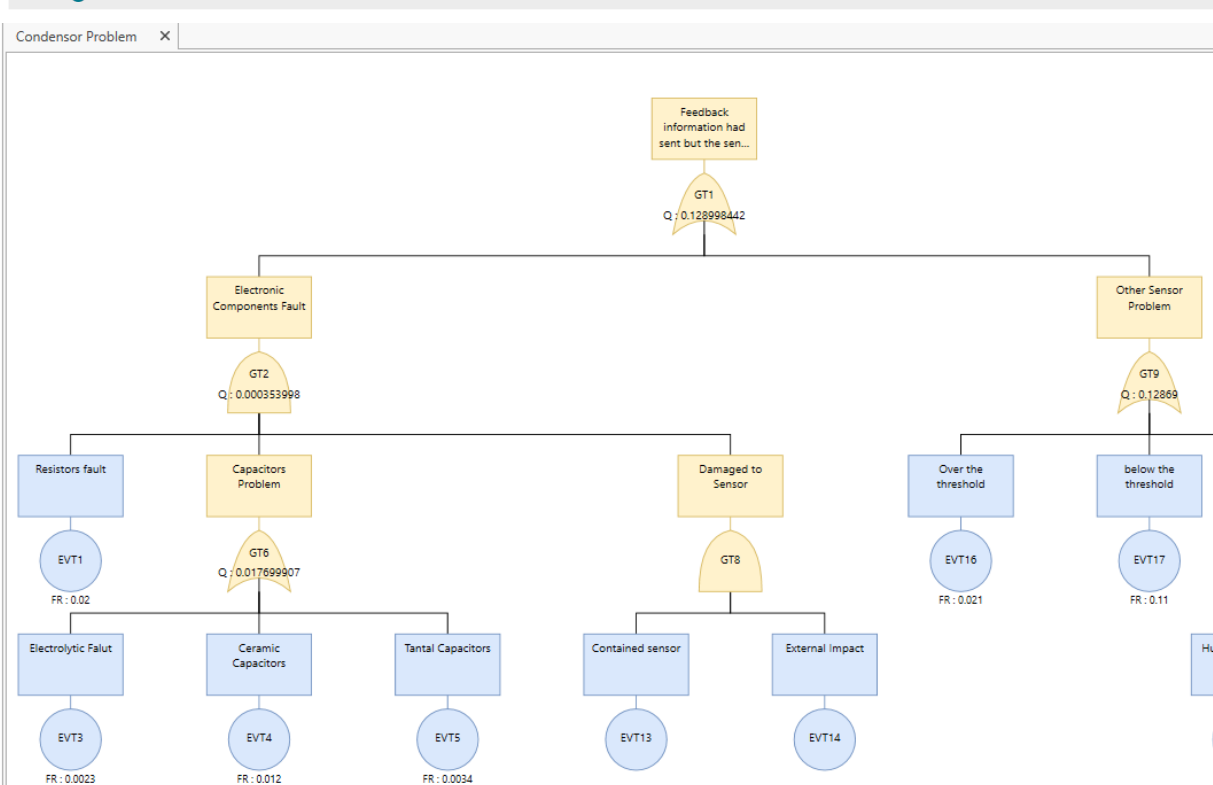
FTA Top event and OR & AND gate with STPA

Loss Scenario

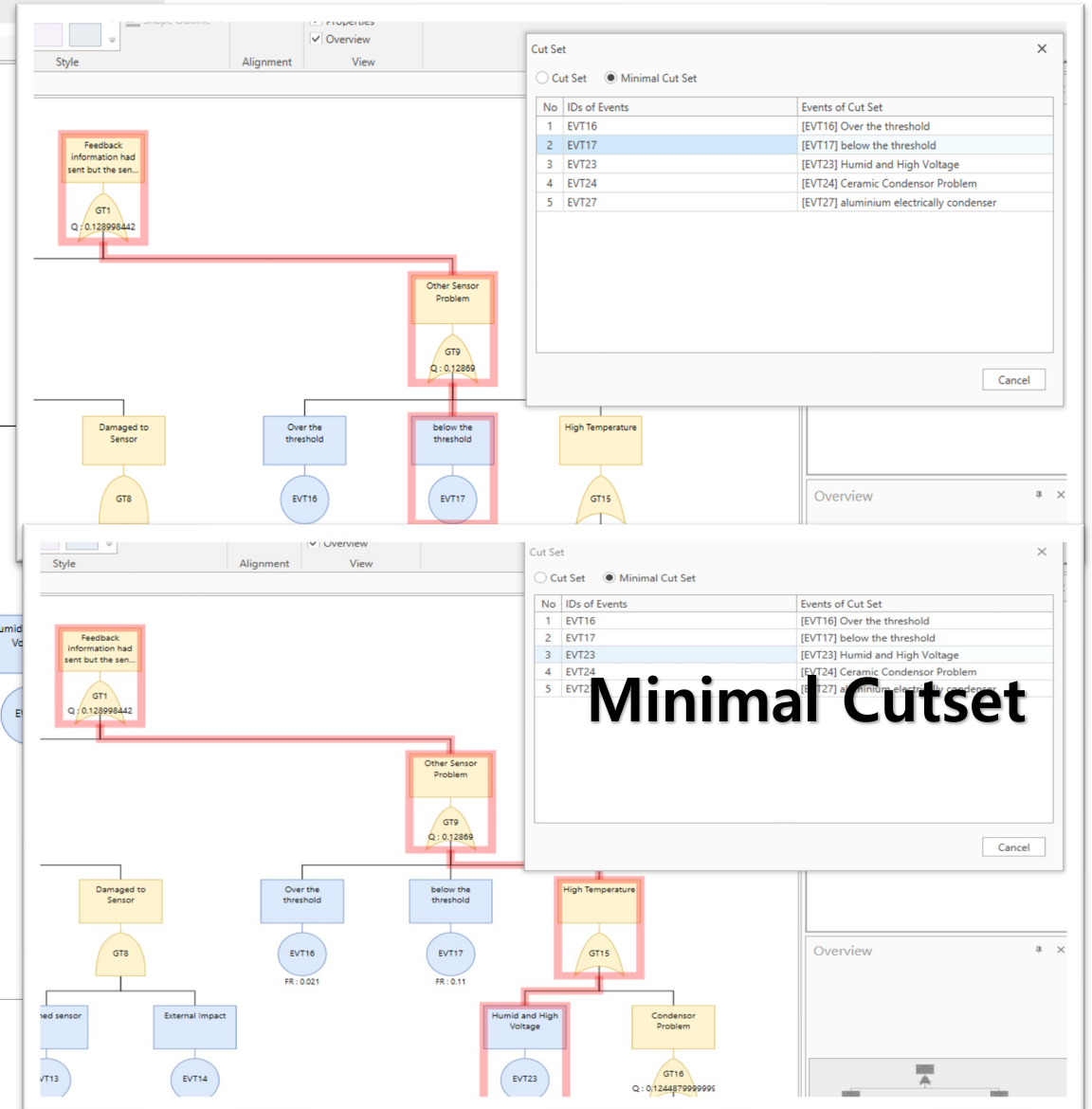


2. Integration of STPA & FTA and FMEA

Calculate Failure Rate and Cutset(Minimal Cutset)



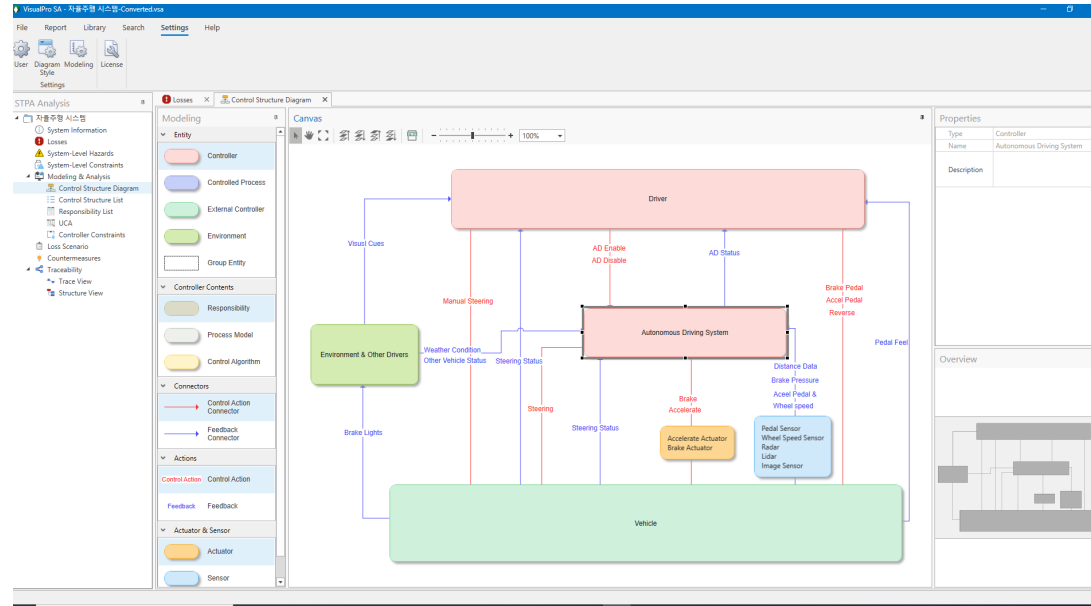
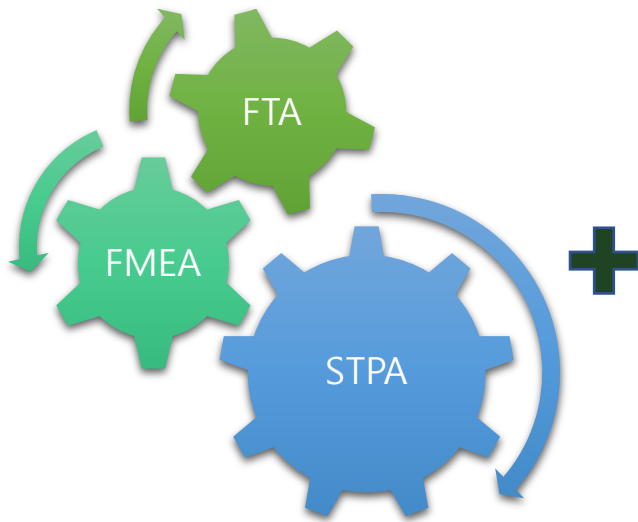
Calculate Failure Rate



2. Integration of STPA & FTA and FMEA

FTA Application with STPA

- Our goal is getting the best analysis out of you



Integration Analysis

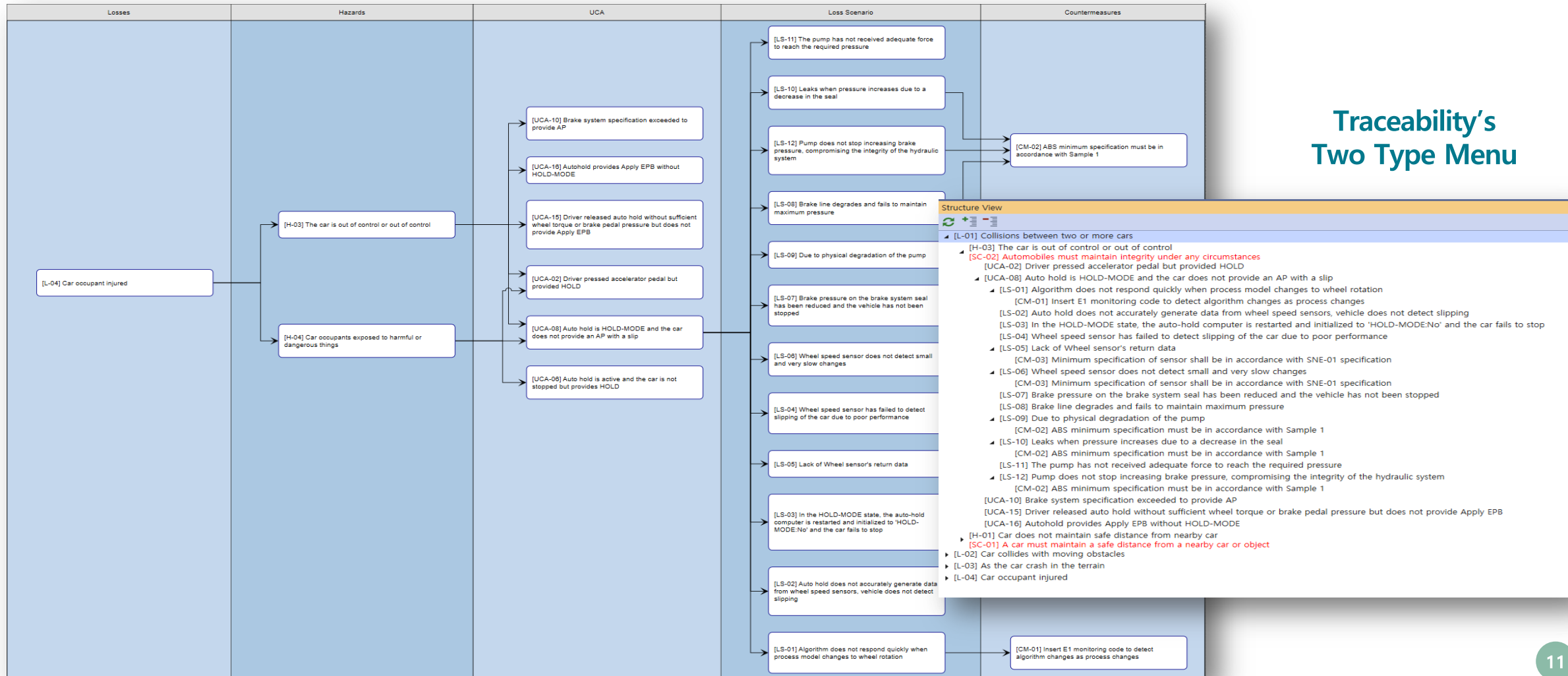
VisualPro SA

Useful Features

3. Key Features of VisualPro SA (STPA)



“Traceability provides users with a quick, overall view of system from losses to countermeasures”



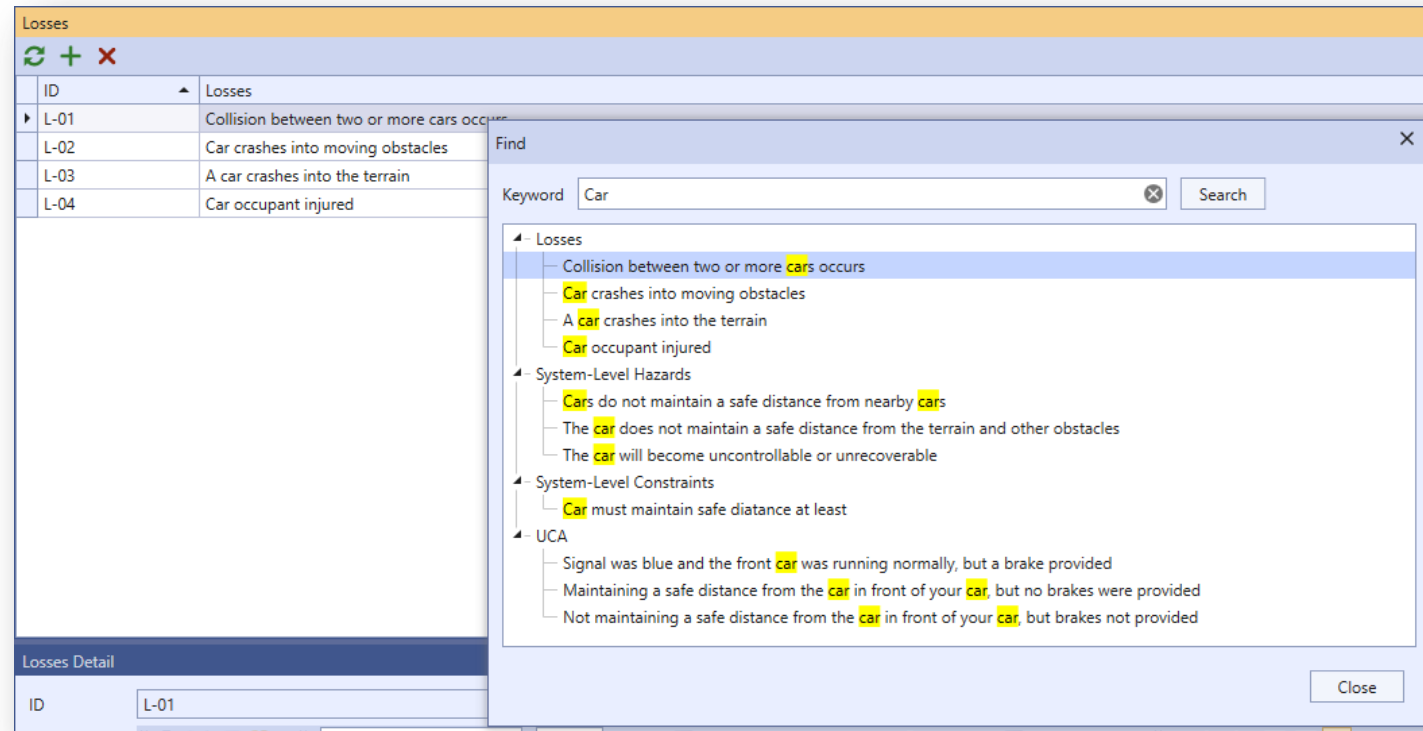
3. Key Features of VisualPro SA (STPA)



- Finding your STPA analysis results
- Double click on the screen what you want to see the result of



Finding words or sentence



Clicked Screen

3. Key Features of VisualPro SA (STPA)

Automatic Completion

- Supports Automatic Completion
- Save your time & Improvement of user convenience

UCA

UCA Type: Not provided

Analysis Type: ☐ All ☒ Safety ☐ Security

Flag:

ID: UCA-7

UCA: s|

Interpretation:
Steering System
Steering Status
Steering

Assumption:

Loss Scenario

UCA Hazards

+ - X

ID	Flag	Guide Word Set	Entity	Loss Scenario
LS-10		STPA_Handbook_...		s

Steering System
Steering Status
Steering

Automatic Completion on UCA and Loss Scenario, Countermeasure



Save Your Time

3. Key Features of VisualPro SA (STPA)



- Pre-viewable in STPA report form through reporting tool
- Support to export format as Word, PDF

The collage displays various sections of an STPA report generated by VisualPro SA:

- STPA 보고서**: Title page with report details.
- Table of Contents**: Lists sections like 1. 개요, 2. 시스템 구성, 3. 시스템 구성도, 4. 시스템 구성도, 5. 시스템 구성도, 6. 시스템 구성도, 7. 시스템 구성도, 8. 시스템 구성도, 9. 시스템 구성도, 10. 시스템 구성도, 11. 시스템 구성도, 12. 시스템 구성도.
- 1. 시스템 정보**: System information table.
- 2. 제어 구조 다이어그램**: Control structure diagram showing the flow of control.
- 3. UCA**: Uncontrolled Action table.
- 4. 위험도 평가**: Risk assessment table.



VisualPro SA STPA Customers



 Taking you one step further



Pour new wine
Into new wineskins



Thank you for your attention

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