

Application of "TRIZ" to manufacturing phase

~ Case study of eliminating defects
in printer assembly process ~

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Corporate Management Quality Promotion Division
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Company Profile

- * Panasonic Communications Co., Ltd.
- * Fukuoka City ,Japan
- * Establishment: 1955
- * Number of employees: 19,339 (2006)

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Content of Report

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 - Color printer manufacturing process
 - Current problem
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Outline of business

Home network business
IP-Visual Communication

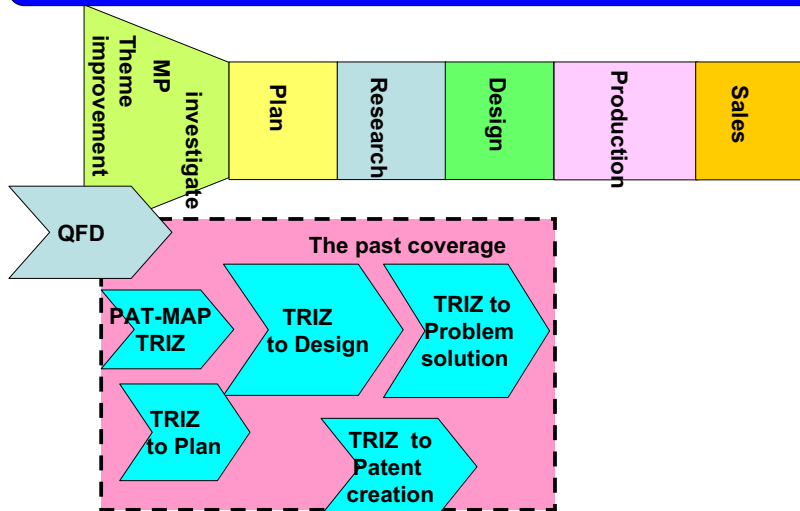
Office network business
IP-Office



Optical Disk Drive and Components business

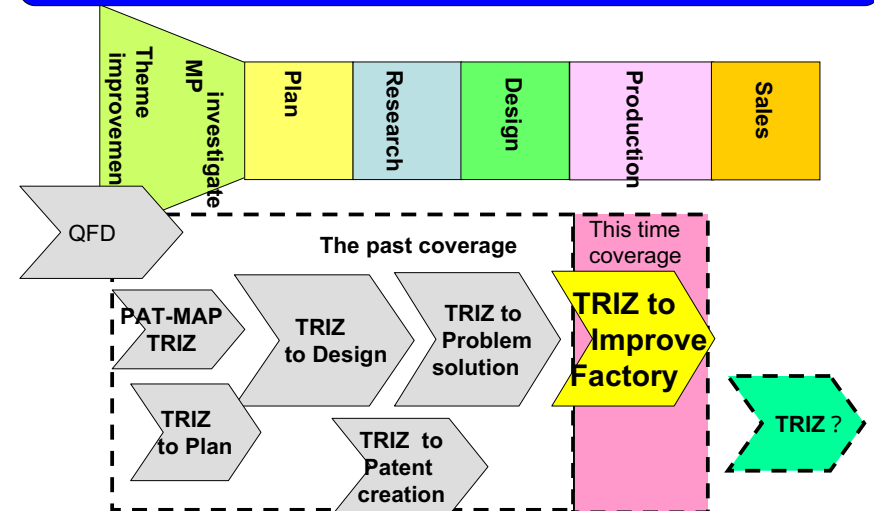
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Use and progressing of TRIZ in our company



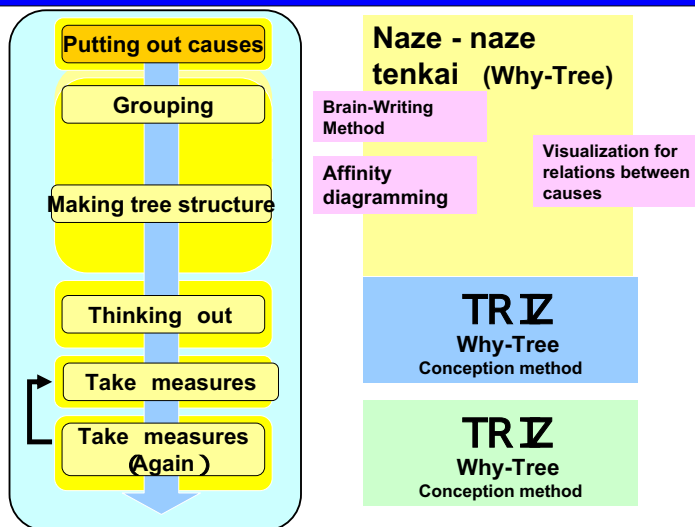
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Use and progressing of TRIZ in our company



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Approach for problem solving (TRIZ to Improve Factory)

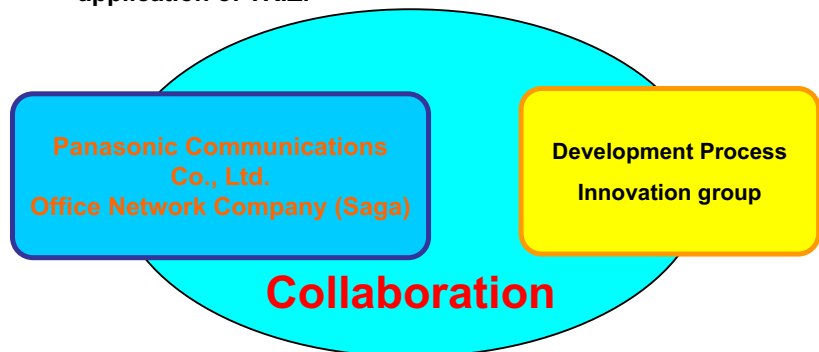


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Case Study of Eliminating Defects in Printer Assembly Process

Background

The assembly process of printers has been improved by a project using various techniques; the problem of a kind of defects was left till recently and was finally solved by the application of TRIZ.



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Product introduction

KX-CL500

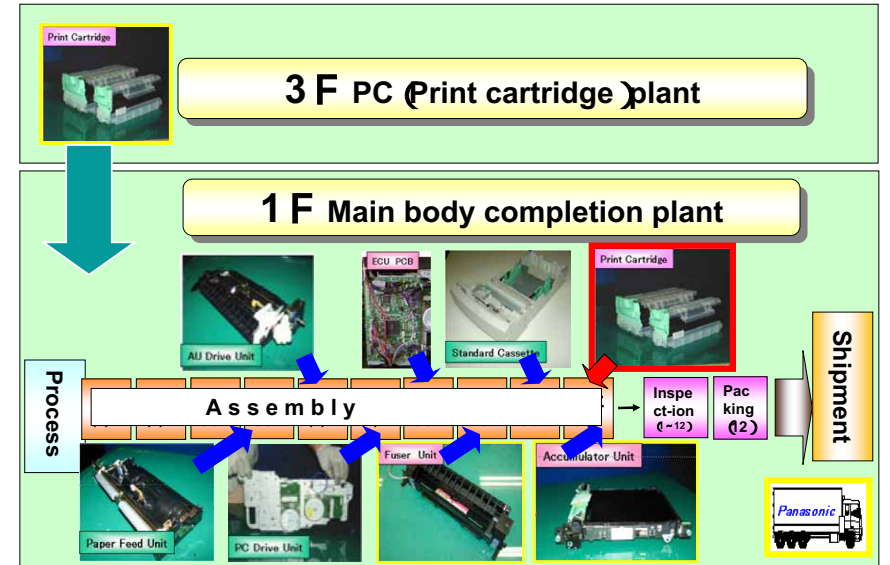
* feature of Color laser printer*

1. It is start-up momentarily depend on the IH adoption. (35sec)
2. Print speed (16ppm/Color)
3. Space-saving (L=510、W=410、H=400)



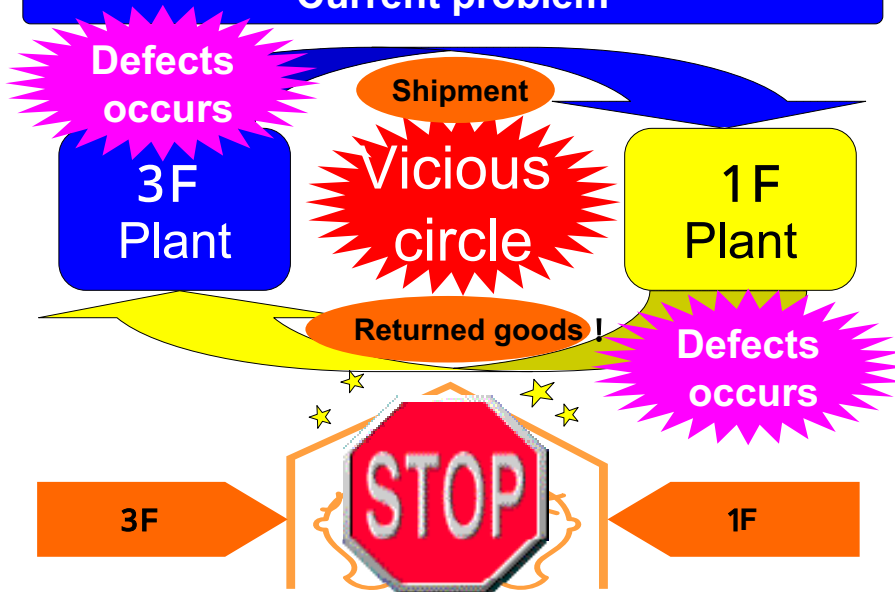
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Color printer manufacturing plant



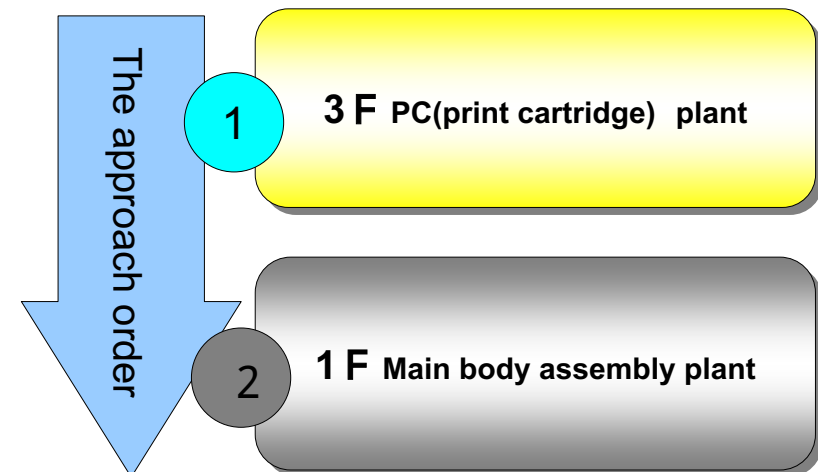
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Current problem



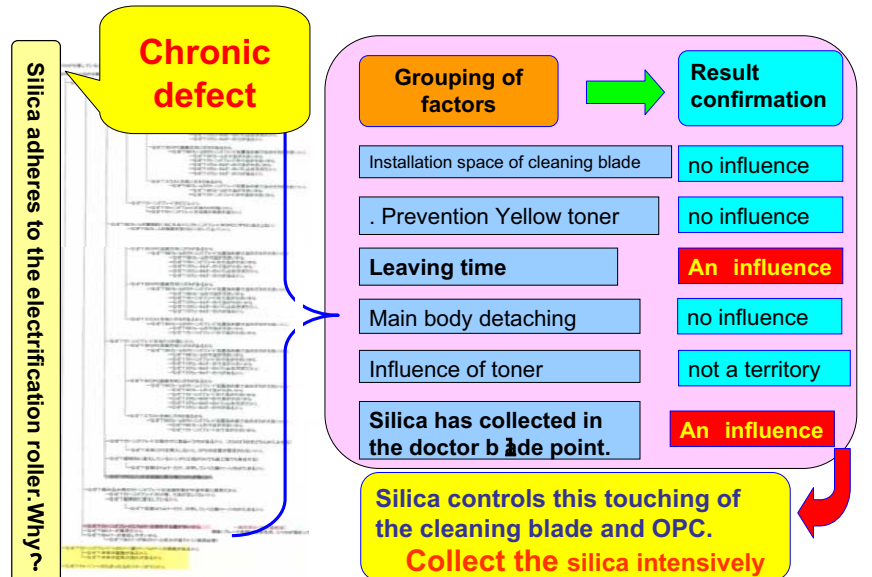
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3F Approach in PC (Print cartridge) plant



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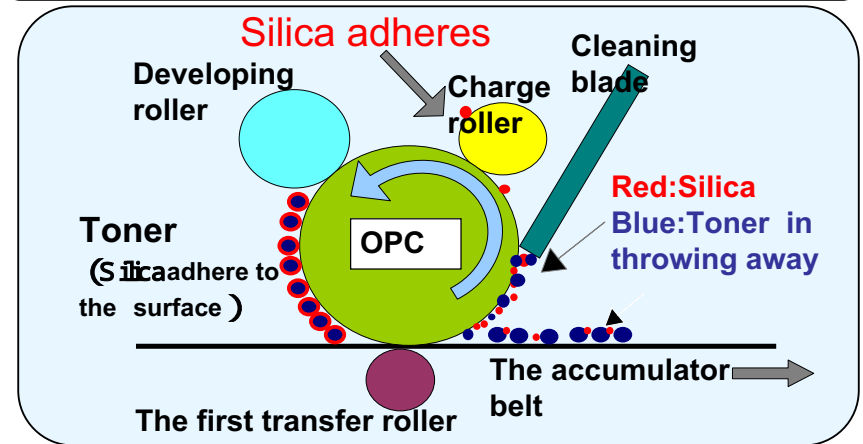
3F Approach in PC plant (Analysis of problem)



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3F Approach case (Analysis of problem)

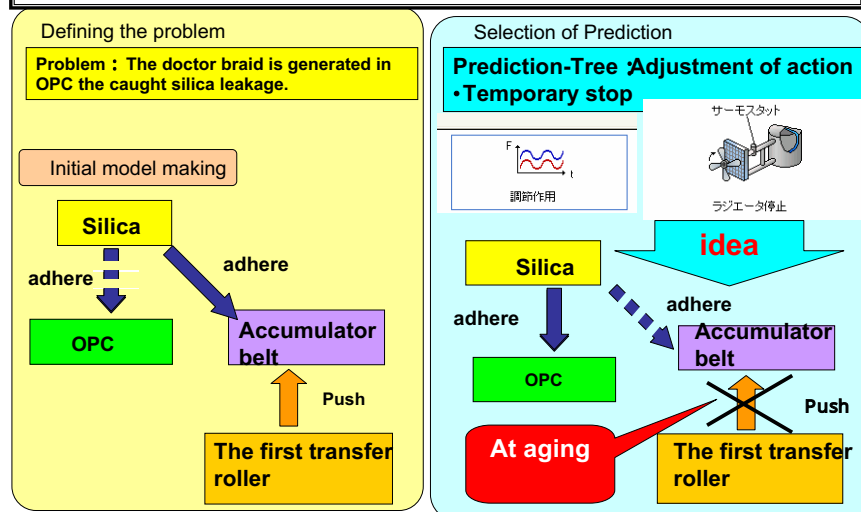
Problem :
The silica that adheres to the surface of OPC in the printer on OPC, it adheres to the charge roller, and defect occurs.



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3F Approach case (Measures)

Product analysis and Prediction practice



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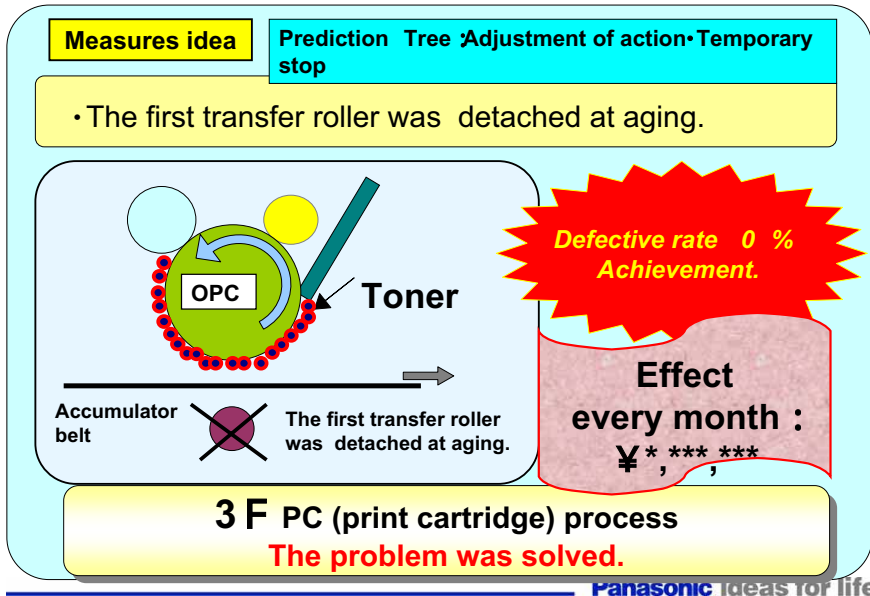
3F Approach case (Measures)

Product analysis and Prediction practice



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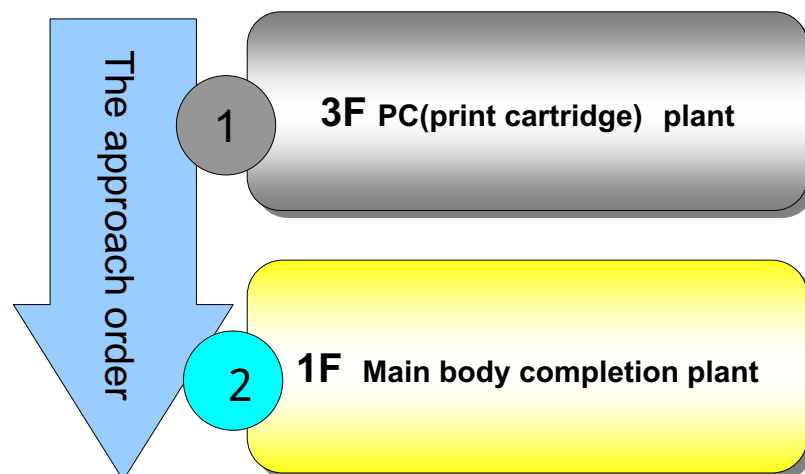
3F Approach case (Measures Result s)



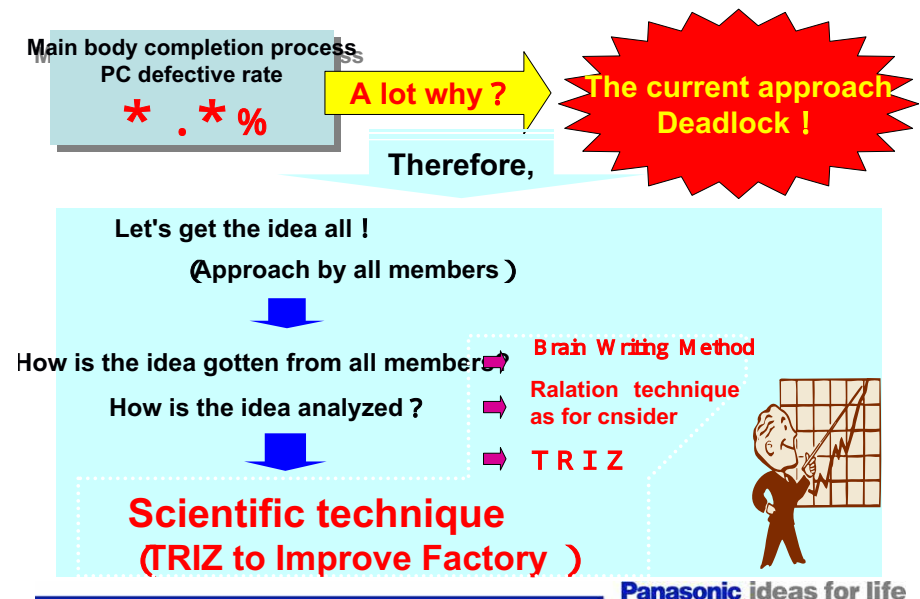
Was the problem solved ?



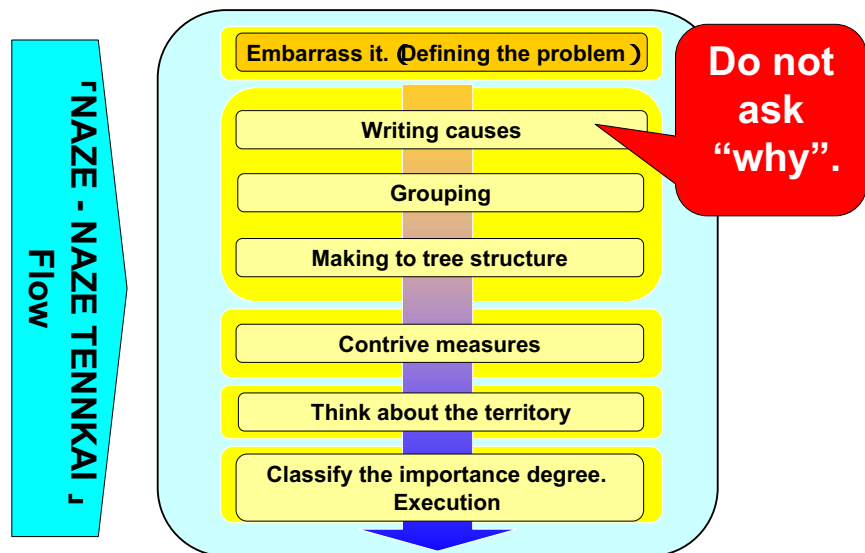
3F Approach in Main body assembly plant



1F Approach deadlock in process

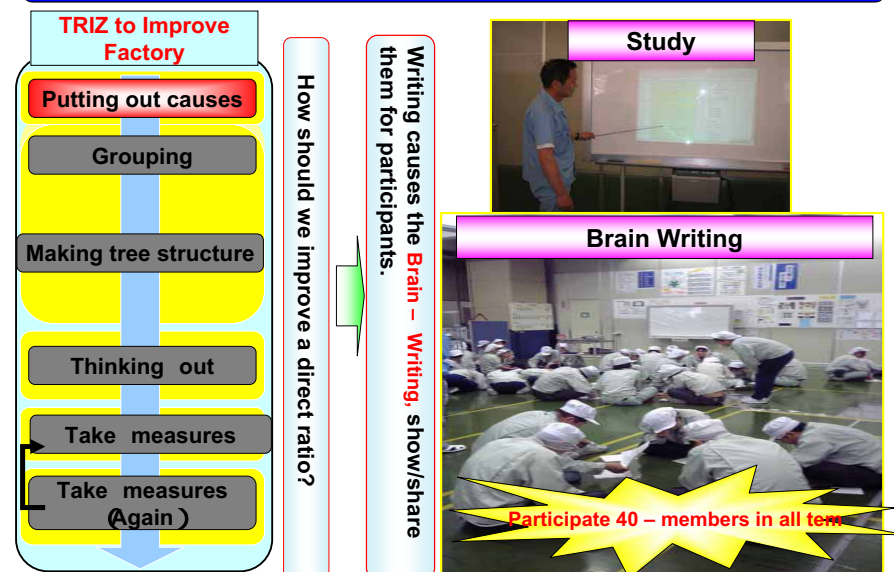


Do not ask “why”. “naze naze tennkai” Why-tree



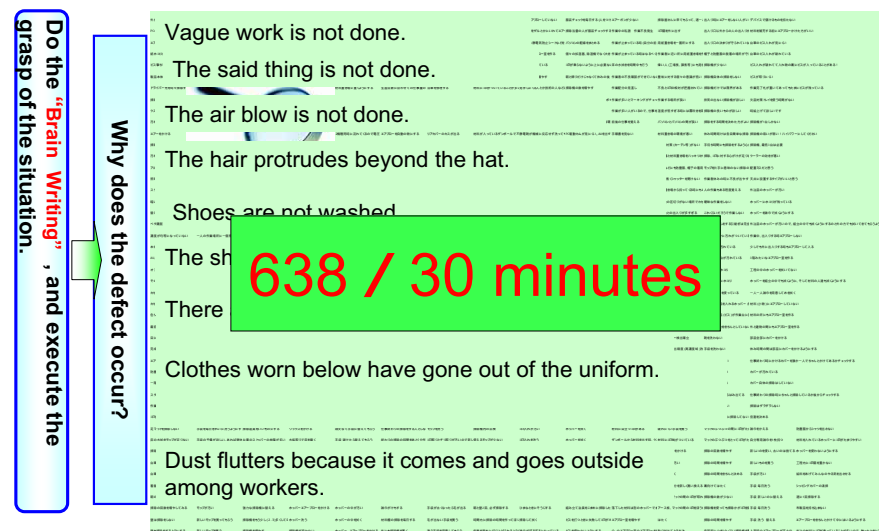
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1F Approach Step ① Grasp of the current problem



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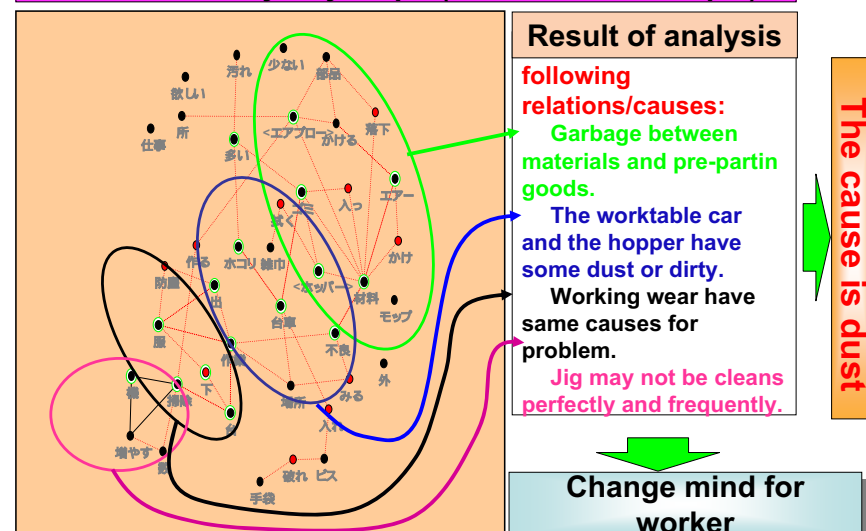
1F Approach Step (Extraction of problem)



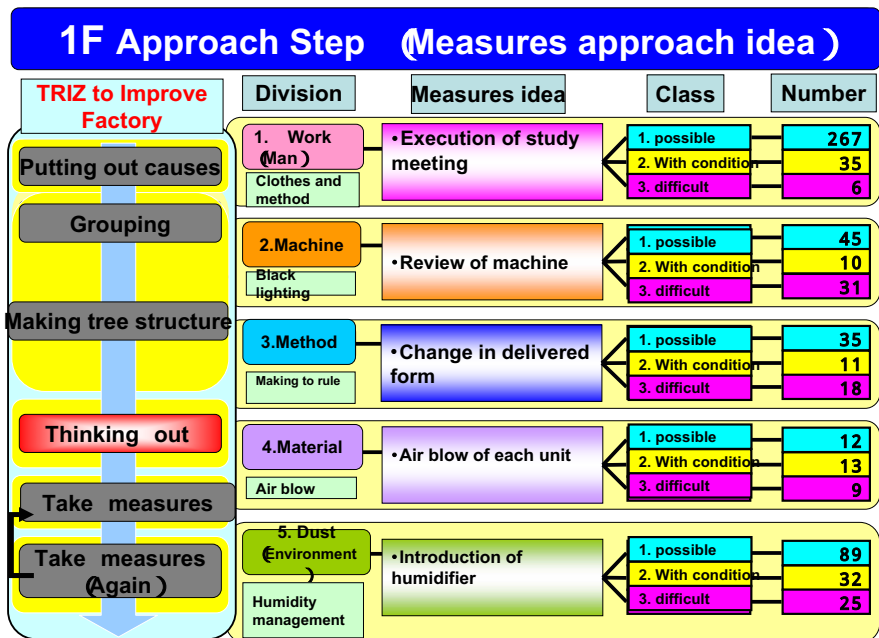
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1F Approach Step (Analysis of problem)

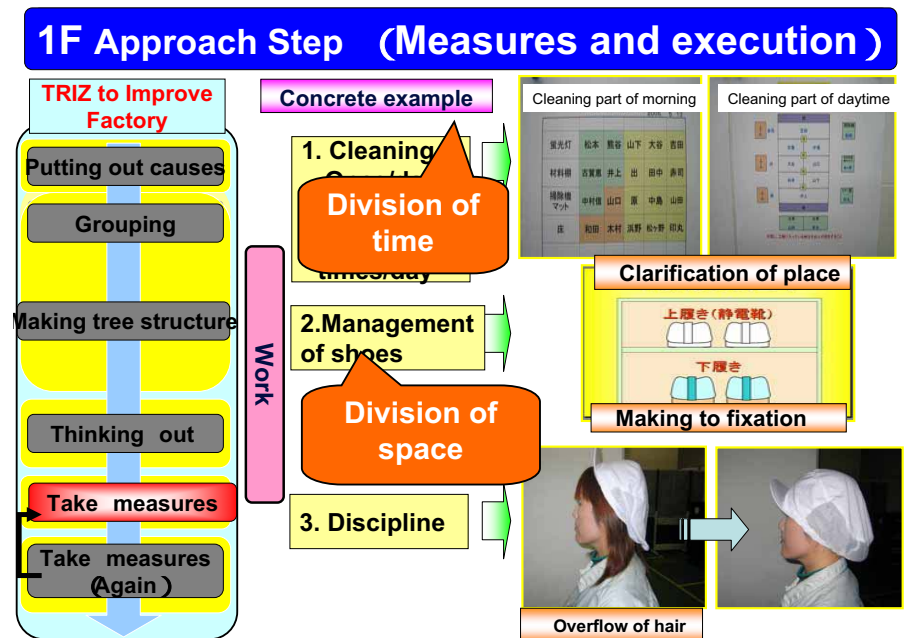
Visualization by KeyGraph (Scientific Technique)



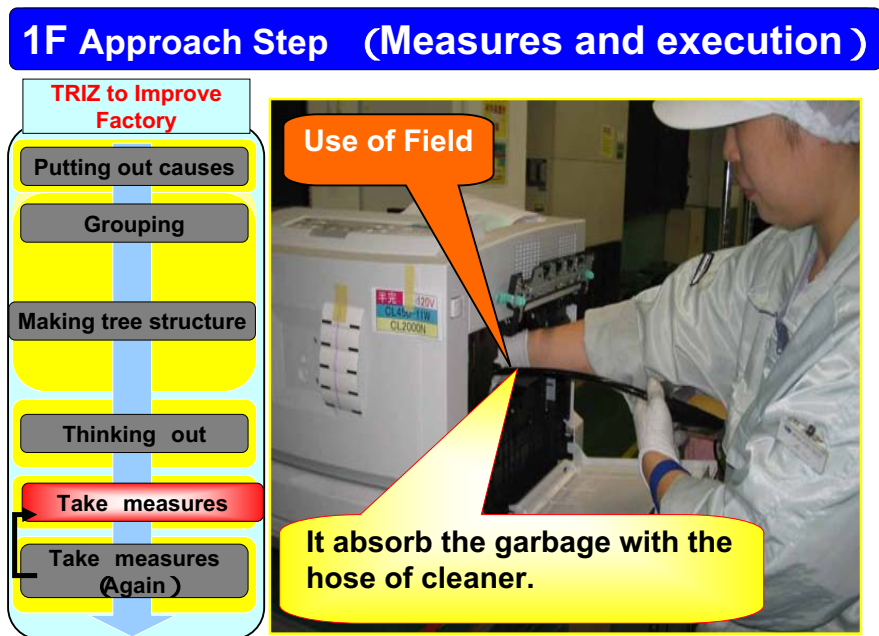
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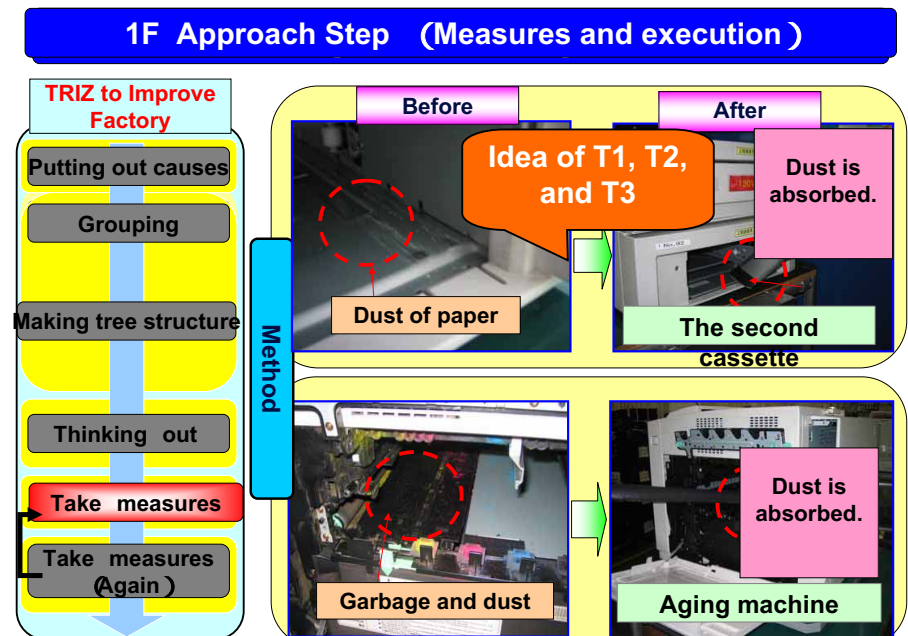
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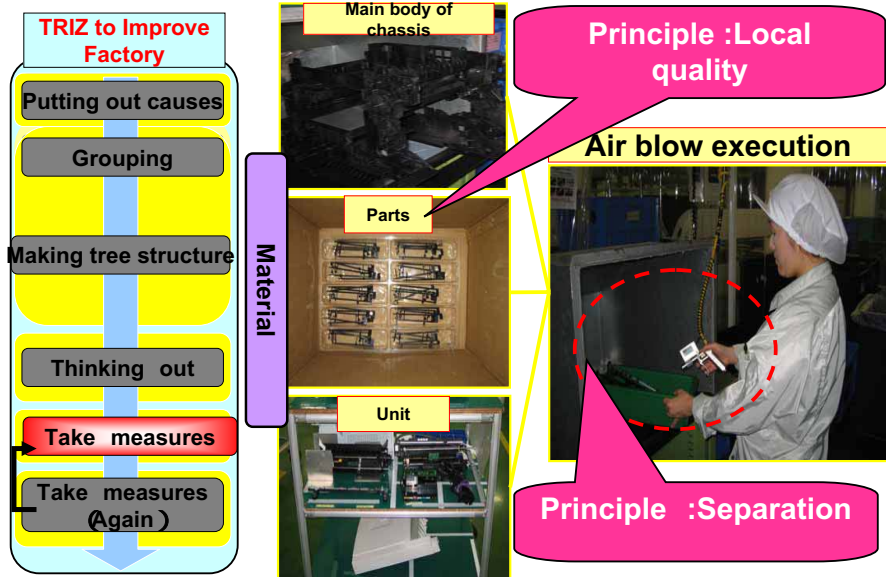


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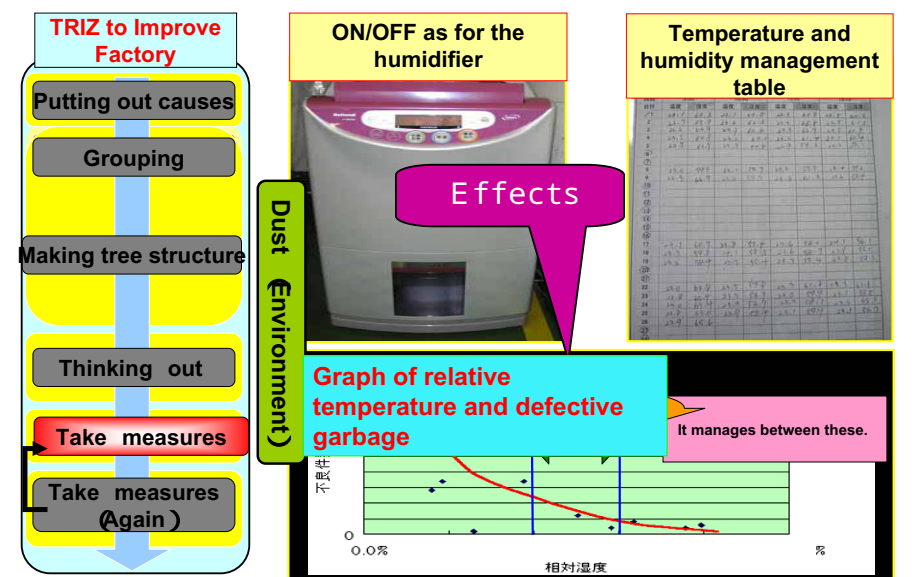
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1F Approach Step (Measures and execution)



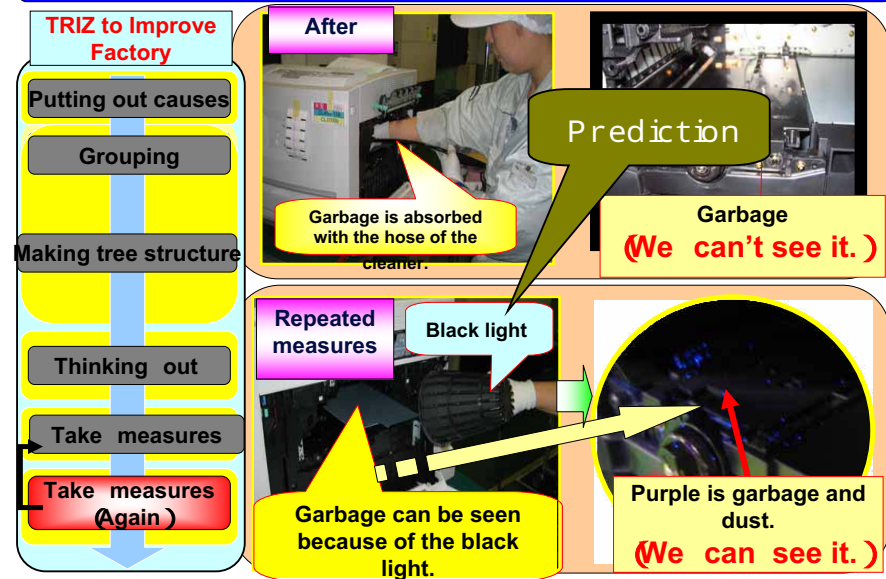
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1F Approach Step (Measures and execution)



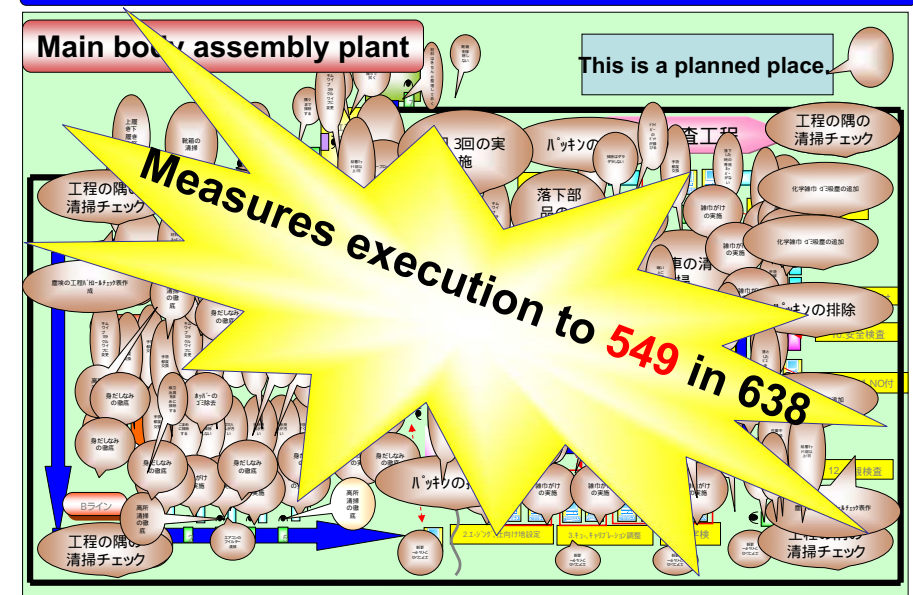
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1F Approach Step (Measures and execution)



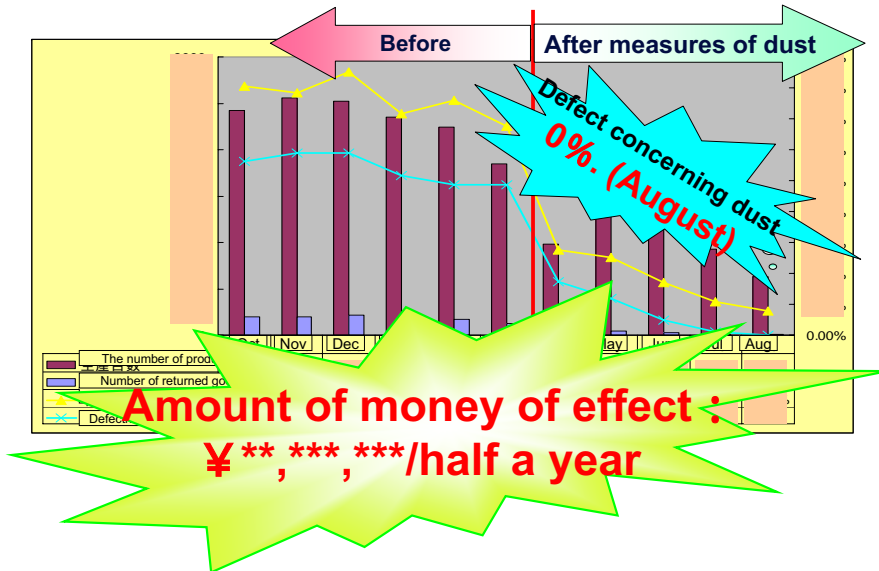
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1F Approach Step (Execution measures summary)



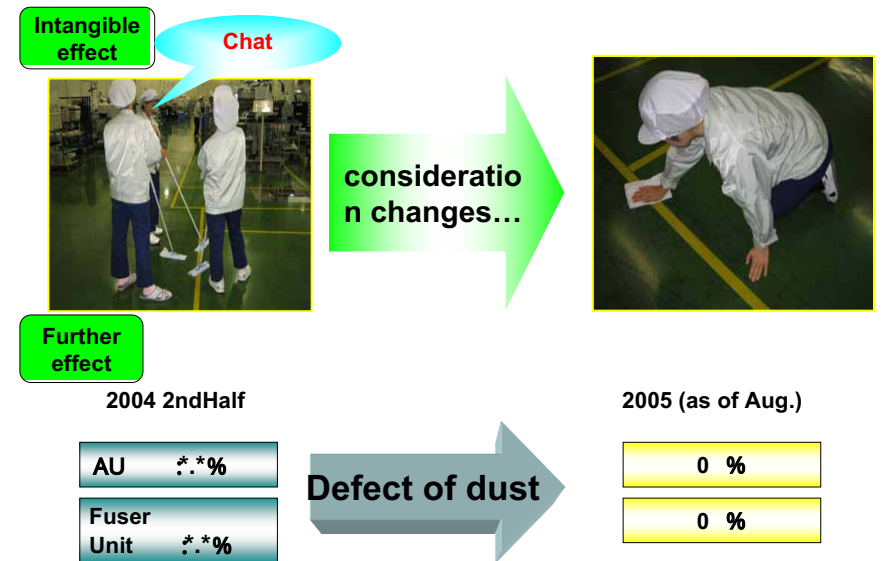
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1F Approach Step (Confirmation of effect)



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1F Approach Step (Confirmation of effect)



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Summary

1. Use "NAZE-NAZE TENNKAI" without what is asked, "Why?" and TRIZ thought.

All parties concerned participate and reflect individual opinion.

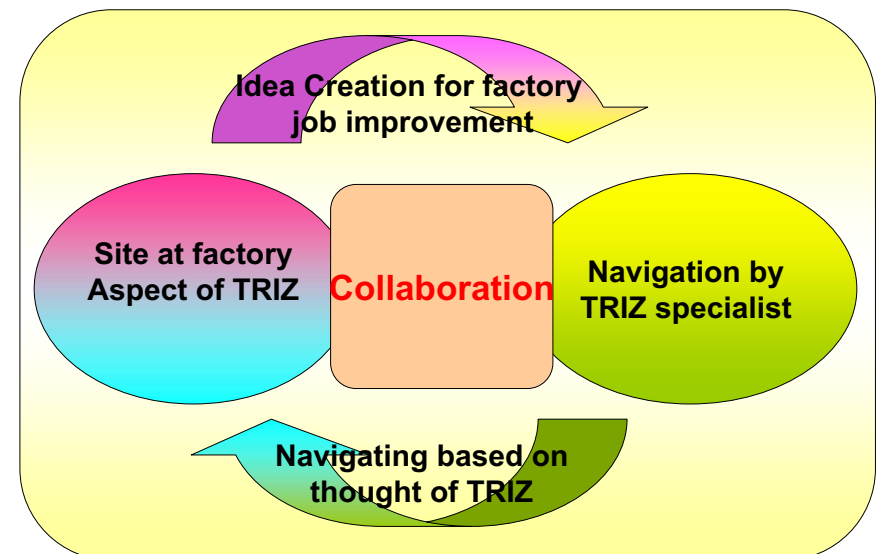
2. Creation of excess 500-Ideas with navigation by TRIZ thought.
Management that does a lot of measures at a time.
management that doesn't pay attention to effect verification of single measures.

3. Putting out problems and ideas using multiple techniques.

If such a process is gone through, it is possible to do. Confidence.

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Summary



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Thank you for your attention!