

# HOW TO ENSURE QUALITY THROUGHOUT THE ENTIRE SUPPLY CHAIN

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# How to ensure Quality



## START

- Lead by example, quality starts by me, myself and I
- Make it simple, keep control of the chain

## THROUGHOUT THE ENTIRE SUPPLY CHAIN

- Concept: improve or innovate
- Product Development: preferred components/architectures and design poka-yokes
- Process Development: modules off the shelf and work standards
- Suppliers and Sub-Suppliers: less is better, connect to Development
- Manufacturing launch and production: FMEA, 8D, Lessons Learned, Layered Audits
- Change Management: carryovers or carry problems
- Customer Relationship: supporting visits, reps and goals

## GOALS

- Quality is a company-wide mindset
- Just aim at ZERO defect!

# Start



## Lead by example, quality starts by me, myself and I



# Start



## Make it simple, keep control of the chain

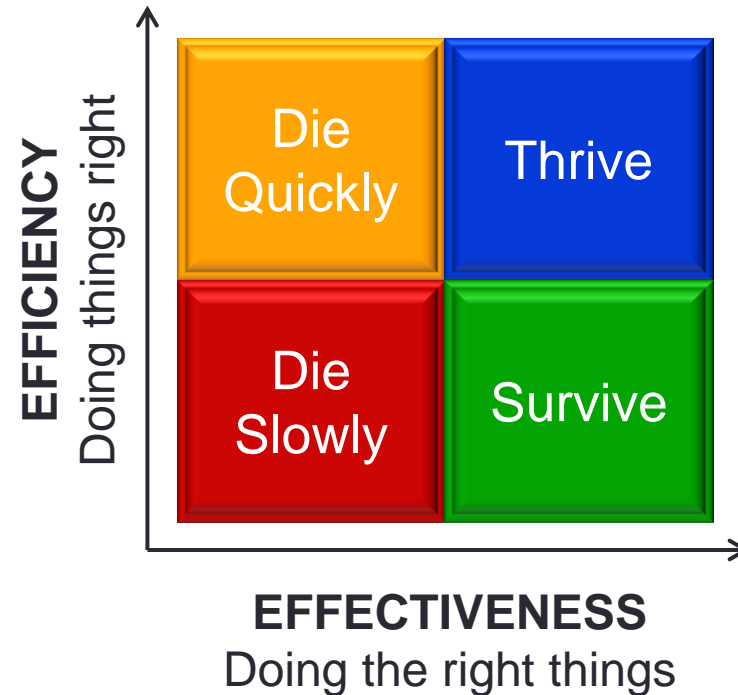


# Start

## Efficient or Effective ?



International Automotive Task Force





# Throughout

## Concept



# Improving

- FMEA (Failure Modes and Effect Analysis)
- DRBFM (Design Review Based on Failure Modes)
- DRBTR (Design Review Based on Test Results)



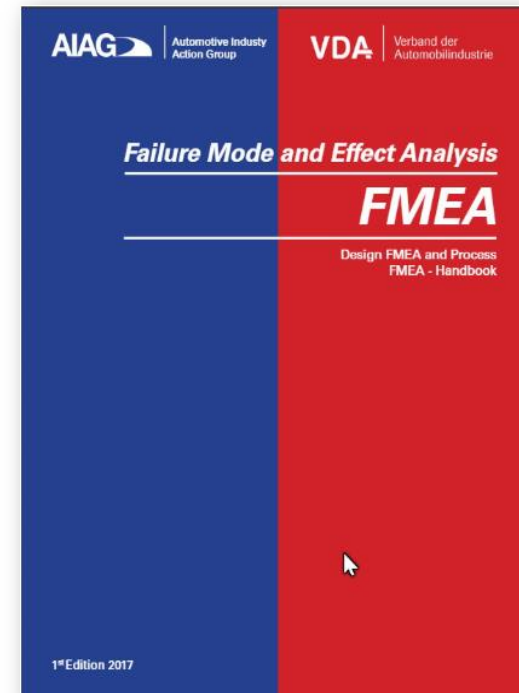
# Innovating

- Gradual approach
- Break-through approach
- Beware of the Total Cost of Ownership

# Throughout Concept



## Unified FMEA book





# Throughout Product Development



## Design Poka-Yokes



- Are better than **process** poka-yokes
- A **detector** is not a poka-yoke!

## Preferred components/architectures



- Reduce **diversity** (and risk)
- Reduce **complexity** (and risk)

# Throughout

## Process Development



### Modules off the shelf

- E.g.: Screw driver station
- E.g.: Ultrasonic welding station
- E.g.: “Autonomation” vs Automation...



### Work standards

- Setup and work instructions
- Troubleshooting and escalation
- Workflow checklists

# Throughout

## Work-flow Checklists



I-LP-041 rev.0 Author: G.Davis Issued: 25-Apr-2013		<b>"Materials Planning - Backflush"</b>			ABC Incorporate Logistics	
date 9-Jul		CHECKLIST			sign	
N	Task	Owner	Send to	Hand written notes		
(...)	The author writes the checklist by listening to the owner(s). Checklists can be revised at any time (rev.0, ...)				✓	
1	Updating CIM - Update all the incoming orders accepted by quality (if we have a maximum 30 minutes to finish)	J.Brown	D.Frank		✓	
2	MENU OPTION 7616 Updating CIM - Update all the incoming orders accepted by quality 1) Press ENTER to update 2) Press F14 and check that the job CIM610C and CIM620C is in OUT 3) Go to spool and check the list CIM6000	J.Brown			✓	
3	MENU OPTION 7626 Updating Plant External - 1) Check if anything is pending 2) Check if any record CALL TO INCOMING FOR THE	D.Frank	L.Stewart	p5 NOK	✓	
4	MENU OPTION 7634 Updating CIM - Interactive Terminals 1) Press ENTER 2) Press F14 and check that the job CIM610C and CIM620C is in OUT					

*example given*

(Why), What, Where, How

Who makes the task

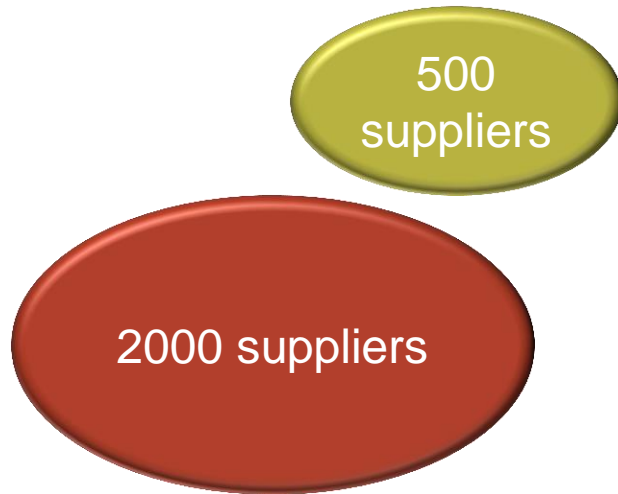
Who receives the information

When in sequence

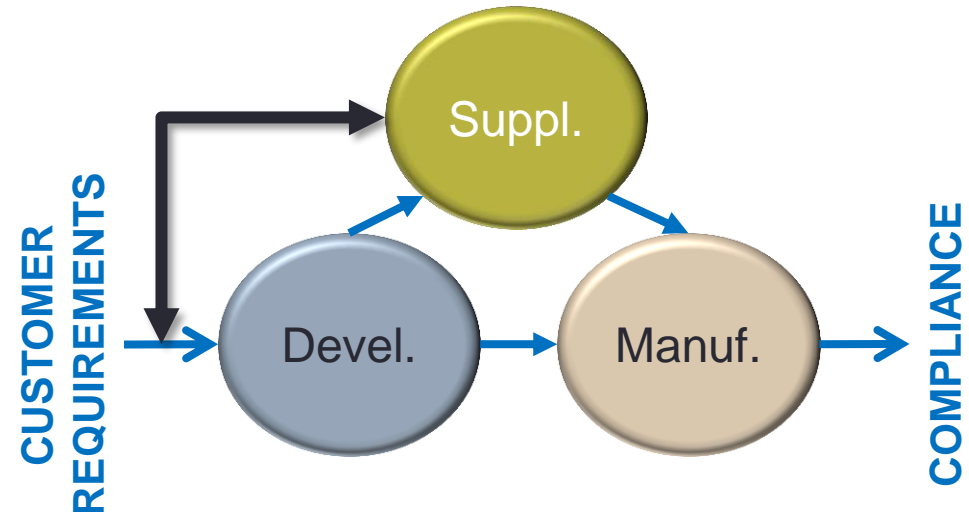
# Throughout Suppliers and Sub-Suppliers



Less and better

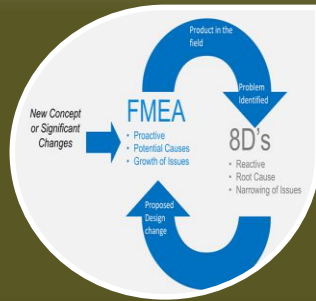


Connect to development



# Throughout

## Manufacturing launch and production



### FMEA, 8D

- Coach and Evaluate DFMEA & PFMEA
- Control accuracy of the APQP
- Coach and Evaluate 8D



### Lessons Learnt, Layered Audits

- Make sure the Lessons Learned are created
- Nominate masters to select valid proposals (DB)
- Make sure it is converted into work Standards

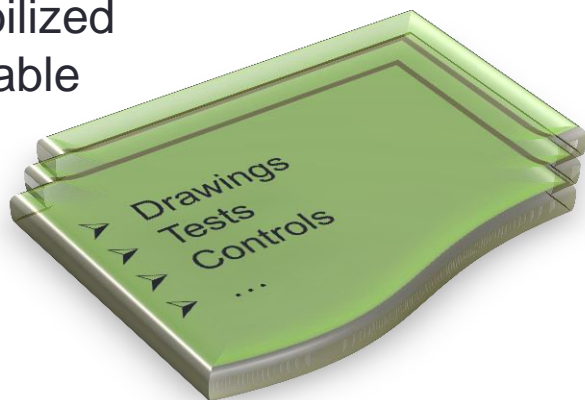
# Throughout

## Change Management



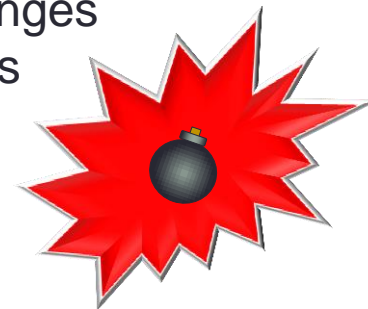
### Carryovers?

- Documented
- Stabilized
- Reliable



### Or Carry Problems?

- Parts not matching the drawings
- Tools not in proper condition
- Undocumented changes
- Unauthorized changes
- Missing validations
- Fake validations
- ...



# Throughout

## Customer Relationship



### Supporting visits

- Listen to the Voice of the Customer
- Deploy in the organization
- Take it seriously



### Reps and goals

- Reps are the company's front end
- Trigger immediate reaction to problems
- Inspire trust on preventing and solving issues

# Goal



**Quality is a company-wide mindset**

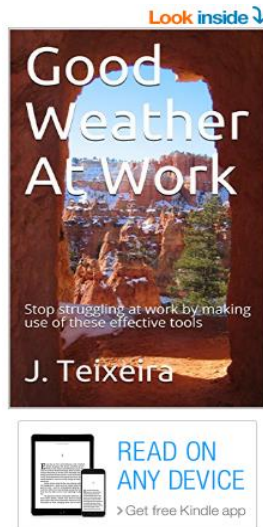
# **PROCESS and PEOPLE**



Goal



ZERO  
DEFECTS



Read my book, amazon kindle books

Just Google this title:

[Good Weather at Work, stop struggling](#)

# How to ensure Quality

THROUGHOUT THE ENTIRE SUPPLY CHAIN



Appreciate your time

**...Questions & Answers...**



Last page