

# PathStone Group



PathStoneGroup.com



# Poka Yoke

# Agenda

1. Poka Yoke: What is it ?
2. Poka Yoke purpose and benefits
3. Principles
4. Applications
5. Implementation
6. Takeaways



# Introduction

## What is it ?

Poka Yoke means '**mistake-proofing**' or, more literally – **avoiding** (yokeru) **inadvertent errors** (poka).

Lean methods to **preventing errors** and **defects** from appearing in the first place and has proven to be a true efficiency booster.



# Introduction

## Purpose and Benefits

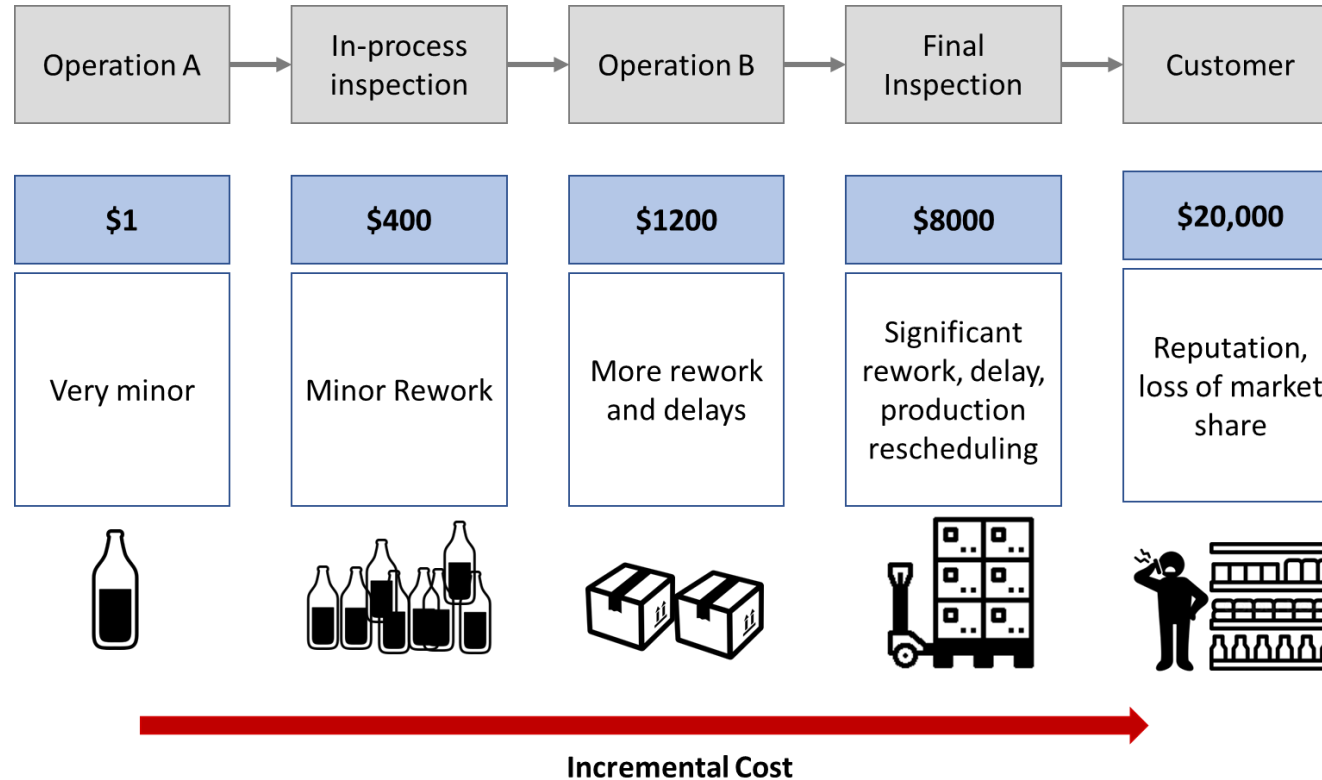
- Is one of the most powerful work standardization techniques.
- Can be applied to any manufacturing or service industry.
- Poka Yokes ensures that the **right conditions exist before we execute a process step**, and thus preventing defects from occurring. Where this is not possible, Poka Yokes performs a detective function, **eliminating defects** in the process **as early as possible**.



# Introduction

## Defect cost impact

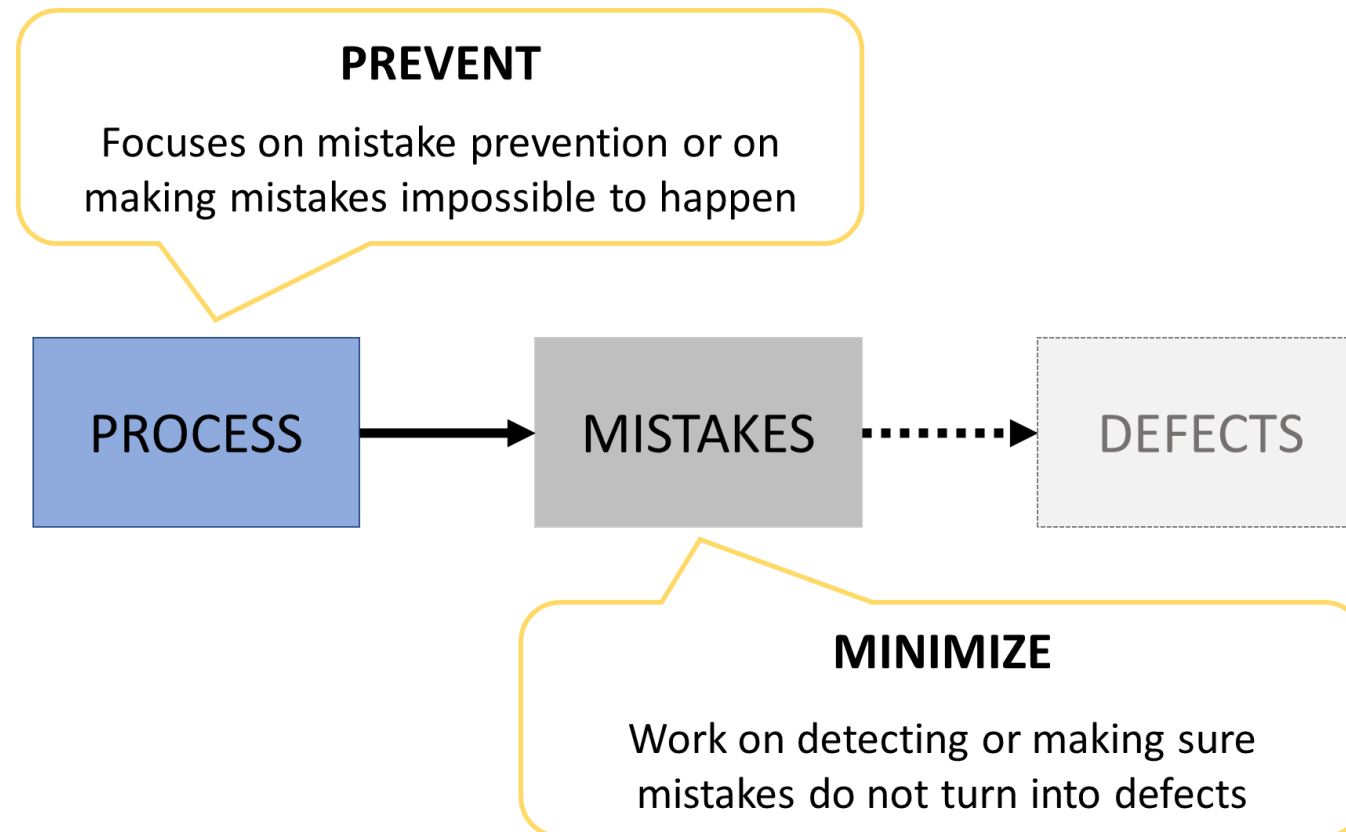
### Purpose and Benefits



# Poka Yoke

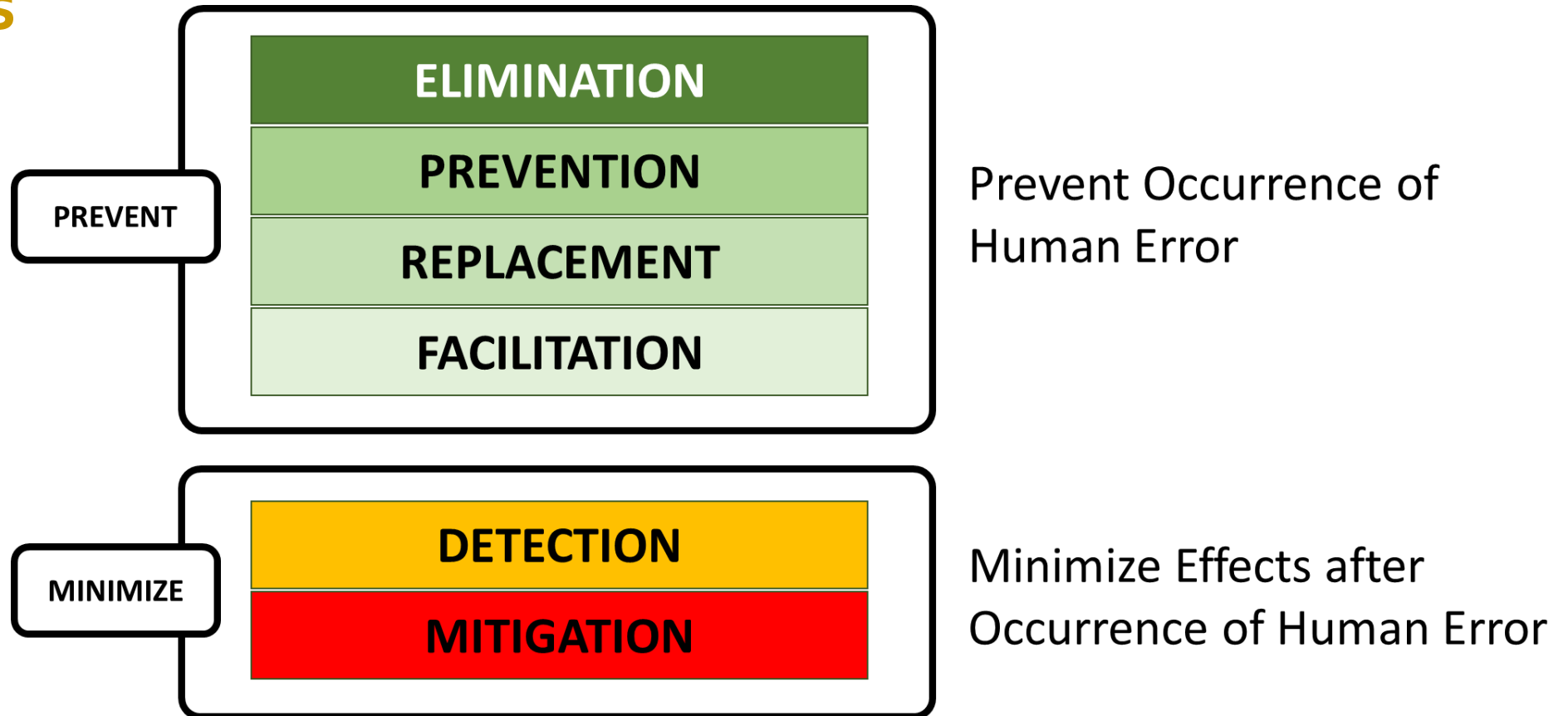
## Scope of Poka Yoke methods

### Principles



# Poka Yoke

## Principles

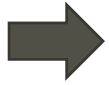


# Poka Yoke

## Principles

PREVENT

MINIMIZE



ELIMINATION

PREVENTION

REPLACEMENT

FACILITATION

DETECTION

MITIGATION

Seeks to eliminate the **possibility of error** by redesigning the product or process.

Engineers the product or process so that it is **impossible to make a mistake** at all.

**Substitutes** a more reliable process to improve consistency.

Employs techniques and combining steps to make the activities **easier to perform**.

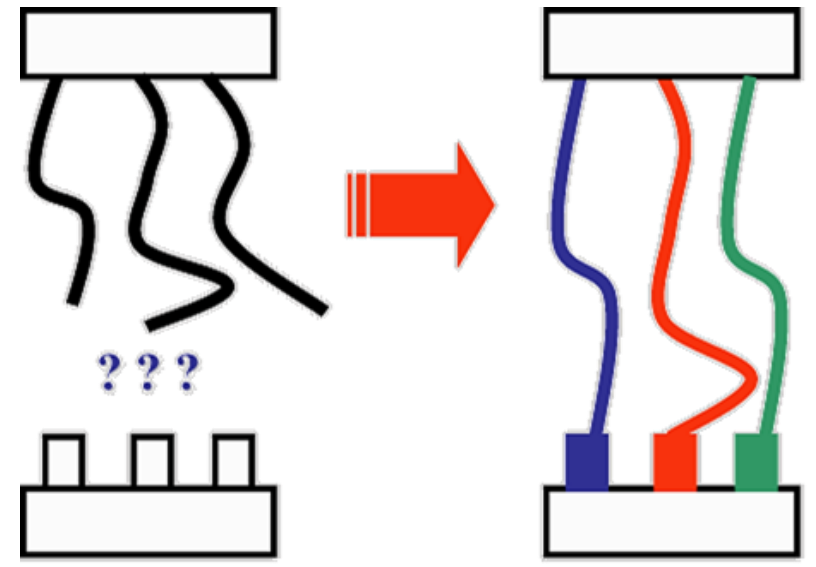
Involves identifying an error **before further processing occurs** to correct quickly the problem.

Seeks to **minimize the errors/ mistakes to turn into defects**.



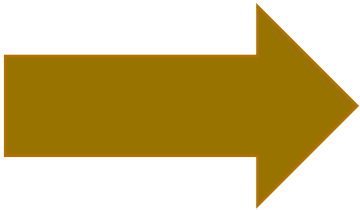
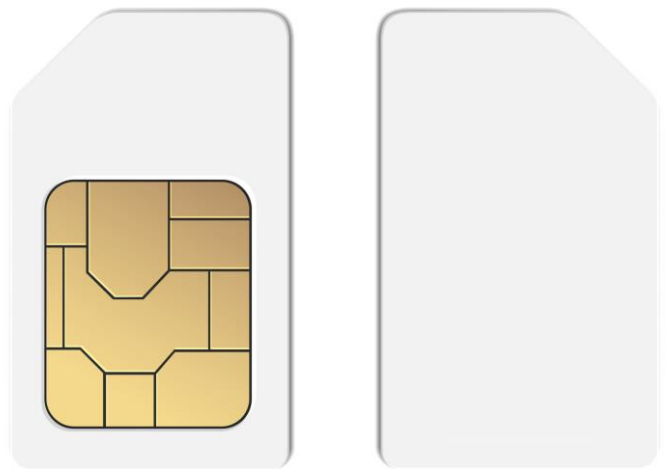
# Poka Yoke

## Applications



# Poka Yoke

## Applications



# Poka Yoke

## Applications



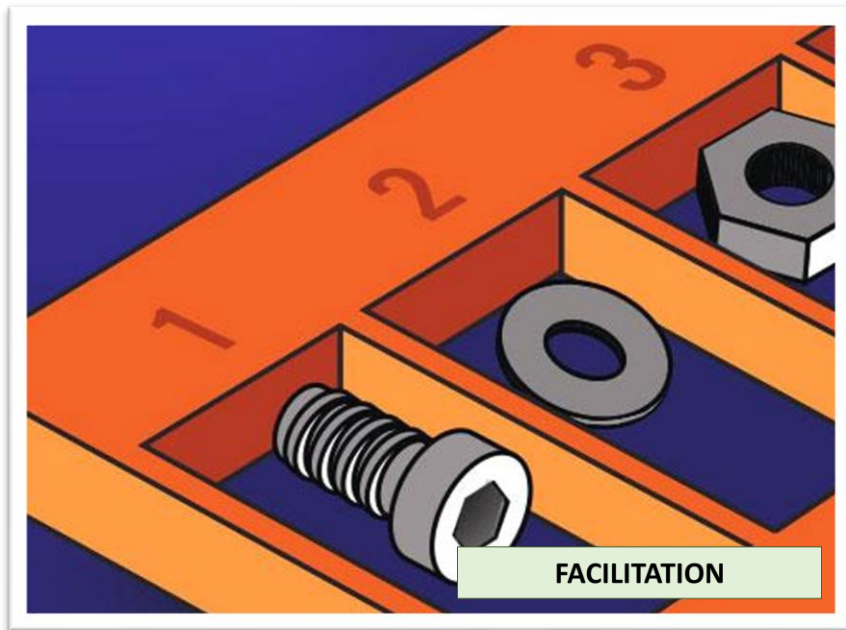
Laser bin that allows to take only the right part in the correct order of assembly. An alarm will ring if the hand gets in the wrong bin.



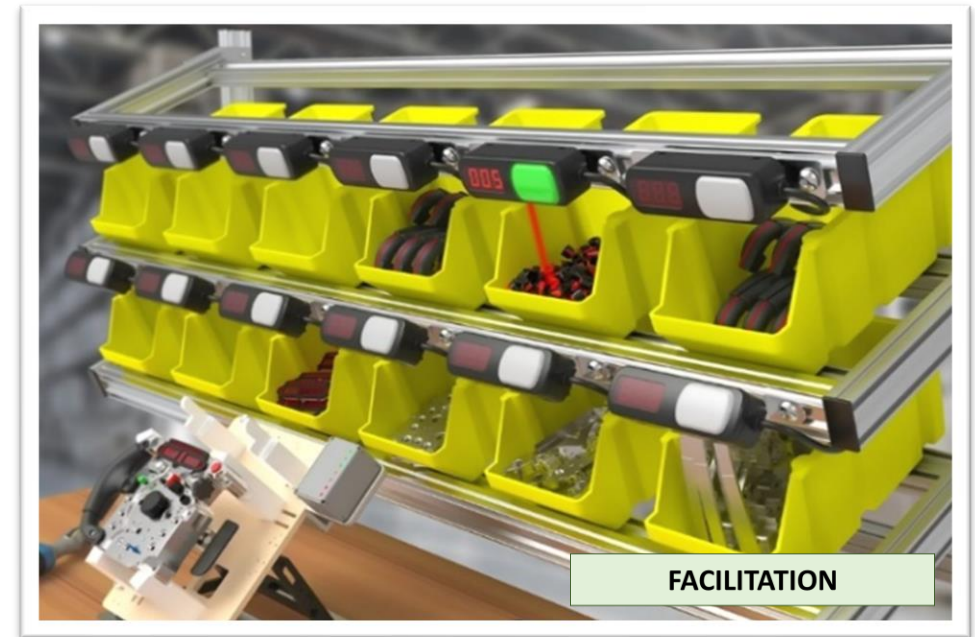
We can only insert bank card in one direction. A drawing shows the correct direction, and the slot won't open if the card is inserted in the opposite direction.

# Poka Yoke

## Applications



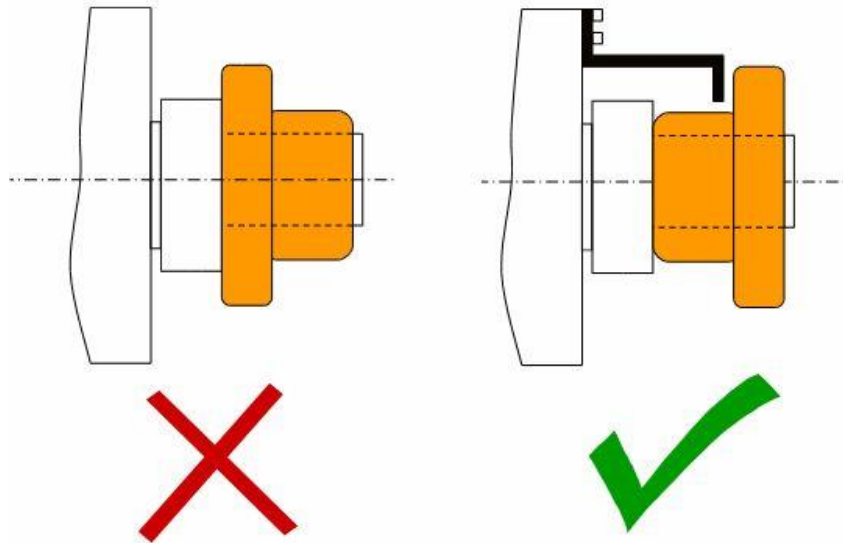
A numbered box with one part per slot only. Operator follows the order and taking one part at a time for the assembly.



A Kanban system integrates a red-green light indicator with a digital counter to show the operator which part is needed and the right quantity. A laser beam will trigger the signal for the next bin to continue the assembly.

# Poka Yoke

## Applications



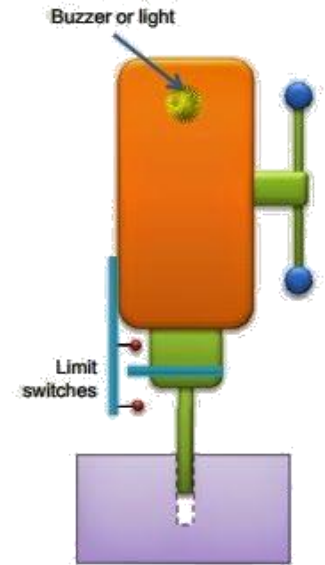
MITIGATION



No Poka Yoke



Stop Poka Yoke



Warning Poka Yoke

MITIGATION

# Poka Yoke

## Implementation

1. **Identify** the operation or process.
2. **Analyze** the 5-why's and the ways a process can fail (FMEA).
3. Choose the right Poka Yoke **approach**, such as using a:
  - a) *Shutout type (preventing an error being made), or*
  - b) *Attention type (highlighting that an error has been made).*
4. Take a **comprehensive approach** instead of thinking of Poka Yokes just as limit switches, or automatic shutoff.



# Poka Yoke

## Implementation

5. Determine whether a:
  - **Contact** (use of shape, size, or other physical attributes for detection),
  - **Constant number** (error triggered if a certain number of actions are not made), or
  - **Sequencing method** (use of a checklist to ensure completing all process steps) is most appropriate.
6. Test the method and see if it works.
7. Train the operator, review performance, and measure success.



# Takeaways

- Always have the **Process Map**.
- Conduct a **FMEA** to discover the potential of failures. Poka Yoke becomes a part of the countermeasures / prevention action plan.
- The value of using Poka Yoke is that they help **people** and **processes** work **right the first time**.
- This approach to production fits perfectly with the culture of **continuous improvement**, which is also part of the Lean management arsenal.
- The flexibility of Poka Yoke allows for it **not to be costly**.





Thank You



# PathStone Group



PathStoneGroup.com

## Copyright notice -

This content is copyright of © PathStone Group 2022. All rights reserved.

Any redistribution or reproduction of part or all of the contents in any form is prohibited other than the following:

- you may print or download to a local hard disk extracts for your personal and non-commercial use only
- you may copy the content to individual third parties for their personal use, but only if you acknowledge the PathStone Group website as the source of the material

You may not, except with our express written permission, distribute or commercially exploit the content. Nor may you transmit it or store it in any other website or other form of electronic retrieval system.

# Poka Yoke

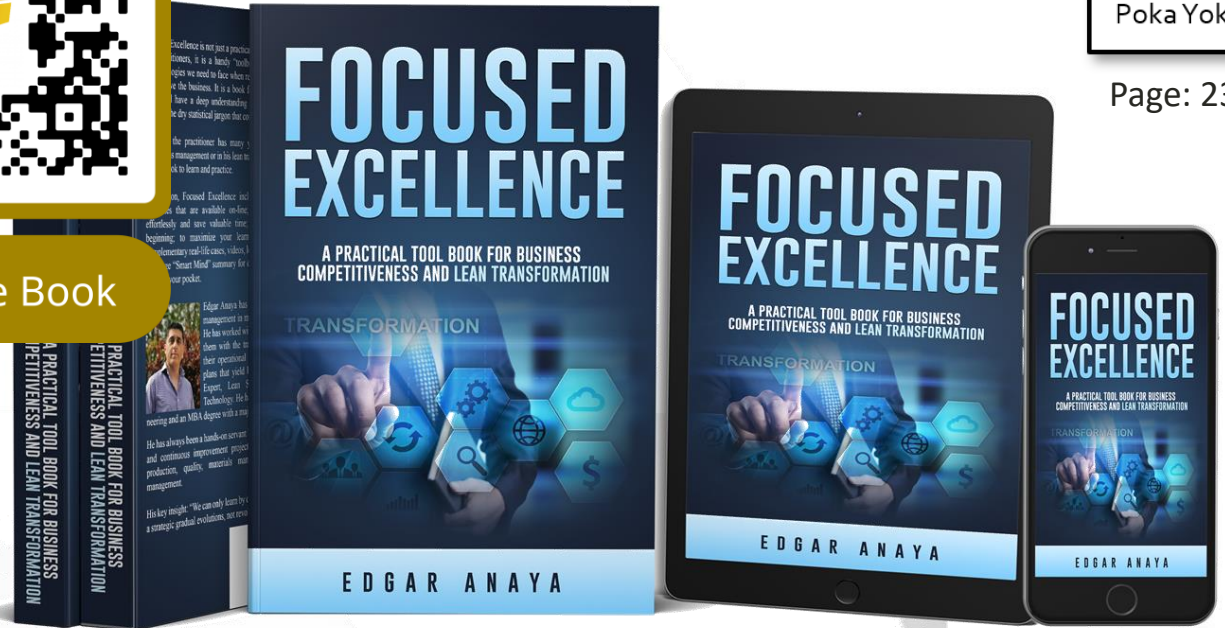
# PathStone Group



PathStoneGroup.com



Get the Book



TOPIC

Poka Yoke

Page: 231

edgar@pathstonegroup.com

**Reference:** Focused Excellence  
by Edgar Anaya  
© 2022

A Practical Tool Book for  
**Business Competitiveness and  
Lean Transformation**