# Case study- For Component Traceability in Manufacturing Industry

## Objective:

To have batch components traced with status placed in the production and assembly area.

## Current system:

- Paper job cards are used which are tied to the components.
- Job card carry information about Batch No., Lot No., Specification No., Part No., Part Name, Part Specification, Material No., Material Name, Material Specification, Raw Material and semi-finished product(SF) status of accepted, rejected and rework components of a batch.

## Problem Faced in Current System:

1. Job Cards are misplaced, lost due to the movement of components in the production and assembly area.

2. SF status enter is wrongly re-entered in legacy system.

3. SF status is not updated at all in the system.

4. The Identification of components without Job cards creates serious problem during assembly resulting in the loss of time and money.

5. The Management is unable to find the status of any component, dynamically in the current system.

## Proposals:

**A. Initially a bar code system was proposed to identify the Batch Components:**

i. Parameters of batch components are restricted to eight.

ii. Hand held barcode scanner with battery power is costly.

iii. The size limitation of barcode for small components.

**B. QR code Management System:**

QR code management system was proposed to negate the issues faced in bar code management system.

## *Implementation Issues Faced*

i. Requirement for different sizes of QR code label stickers.

ii. Stickers ink, erased due to the environment factors (e.g.) oil, grease, turpentine

## *Solutions provided for the implementation issues*

1. Plastic materials stickers with good adhesive property were identified.

2. Scoring pattern for different stickers is determined for various size requirements.

3. Coating over the stickers with polyurethane clear spray is to be used, to resist the environmental factors.

## *Software System*

### a. Generation of QR code:

Provide input parameter for batch components in a desktop based **.** Net application and generate QR code.

### b. Updating of SF Status of Batch Components:

Handheld the system developed in android platform is used to scan and update SF status.

## Result:

Traceability of Batch components using the handled system with environment resistance label is achieved.