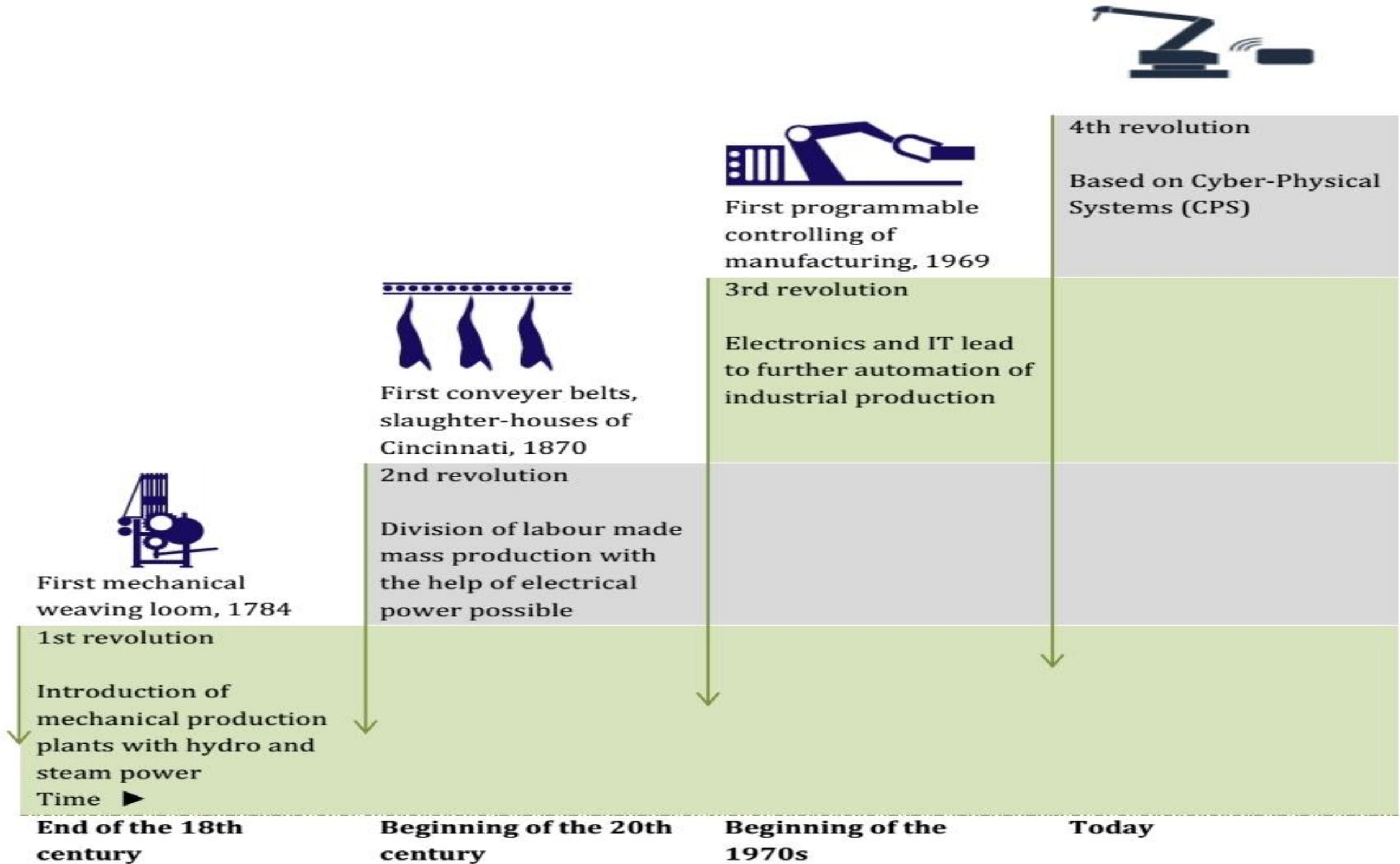




Approaches towards Industry 4.0

Preparation for Sustenance

By
ASHFAQUE AHMED MECCA
Managing Director
Kenmore Shoes & India Shoes,
FARIDA Group





Keep House in Order

- Must be Facilities
- Free from Undesirable Practices
- 5S using 5 Sense



Must be facilities for all Employees

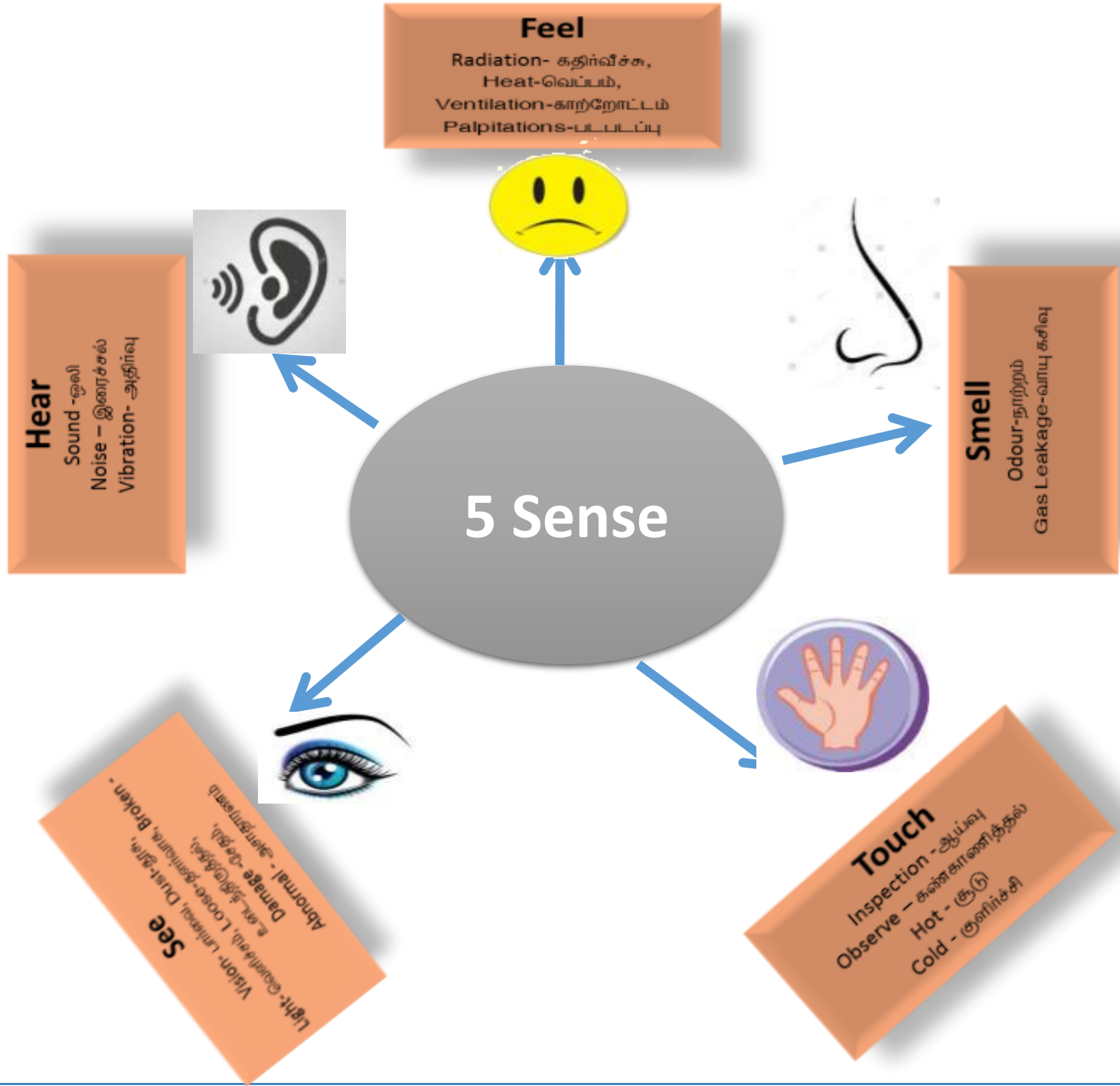
Sl. No	Description
1	Jogging track inside shop floor, along walls
2	Trees in plant campus
3	No earth should be visible in entire company area. There should be concrete, tar roads or green lawns.
4	No truck / fork-lift inside shop floor
5	Clean toilet blocks inside shop floor, dry & smell free
6	No nails to be used anywhere in the factory premises.
7	All employees to wear uniform, shoes and necessary safety gadgets.
8	Noise free DG sets & compressor
9	Clean change room and rest room facilities
10	Hygienic kitchen, washroom, dinning hall.
11	Good recreational facilities
12	Appropriate fire fighting equipments should be placed at accessible locations



Free from Undesirable Practices

Sl No	Description
1	Use of air guns for cleaning the component / jig / fixture/ machine
2	Use of hammers in assembly operation / doing adjustment while part loading on the work station
3	Direct usage of wires in to Electrical plug points without socket while welding / Fan connection ,etc
4	Floor wet due to chips and coolant & floor cleaning by the sweeper in the line
5	Use of cloth / wires to tie electric cables
6	Hand written instructions pasted on the machine & accessories & use of non standard stickers
7	Keeping m/cs directly on floor
8	Loose wire and cables on m/cs & work stations
9	Use of bare hands for applying grease to component / assembly
10	Painting of machine & Accessories is done by unskilled persons
11	Use of files, hack-saw blades and knives for deburring
12	Use of a metal rod to remove the component off the fixture
13	Use of Tray below the m/c to collect the oil
14	Termination of earthing wires is done without proper thimble
15	Unwanted documents are displayed at the work station
16	Operation standard displayed at the work station is difficult to read
17	Cardboard packing / shims are used for work table height / Jigs & Fixture adjustment
18	Dipping the components with bare hands in packing oil bath for rust prevention coating
19	Material handling like coconuts
20	Coolant change frequency based on the time period instead of actual usage
21	Instrument calibration based on the time period instead of actual usage
22	Use of platform (wooden / metal) by the operator at the work station
23	Monitoring the machine wise output instead of the line output
24	Safety shoes - rule is not followed by staff
25	Bins are kept directly on floor
26	Not using designated dustbins to dispose off different types of waste material (hazardous , bio degradable, recyclable)
27	Sitting & working by the operator on the line / shop floor

5S using 5 Sense





LOW COST AUTOMATION (LCA)

Guidelines for LCA:

- Low Cost automation with return on investment within same financial year (i.e. by 31st March).
- With LCA, only cash flow is effected not CAPEX.
- If ROI is not within same financial year , it is called automation with high cost not Low Cost Automation
- Focus on LCA in ZED Cluster.
- How to Do LCA:
 - Do it yourself
 - Have your ideas only
 - Advantage with “Do it yourself “is it can be done fast.
 - Use standard parts
 - If automation is done with outside agency, cost and time will go high. It does not mean, I will do everything in-house. I will subcontract some activities.

LCA

Leather Pulling Machine (Components)

Before : Manual Inspection process



After : Machine Inspection Process



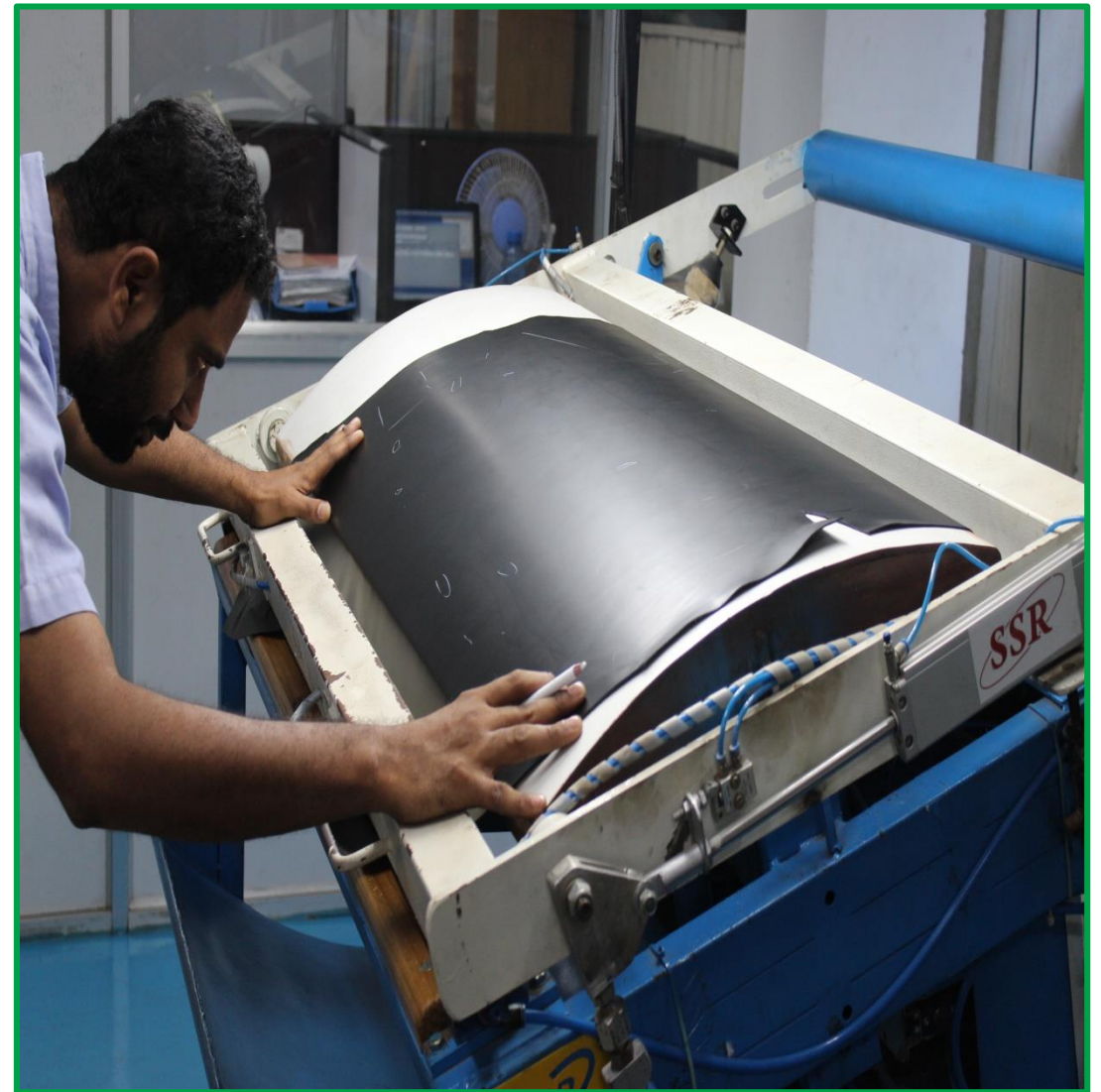
LCA

Leather Pulling Machine (Skin)

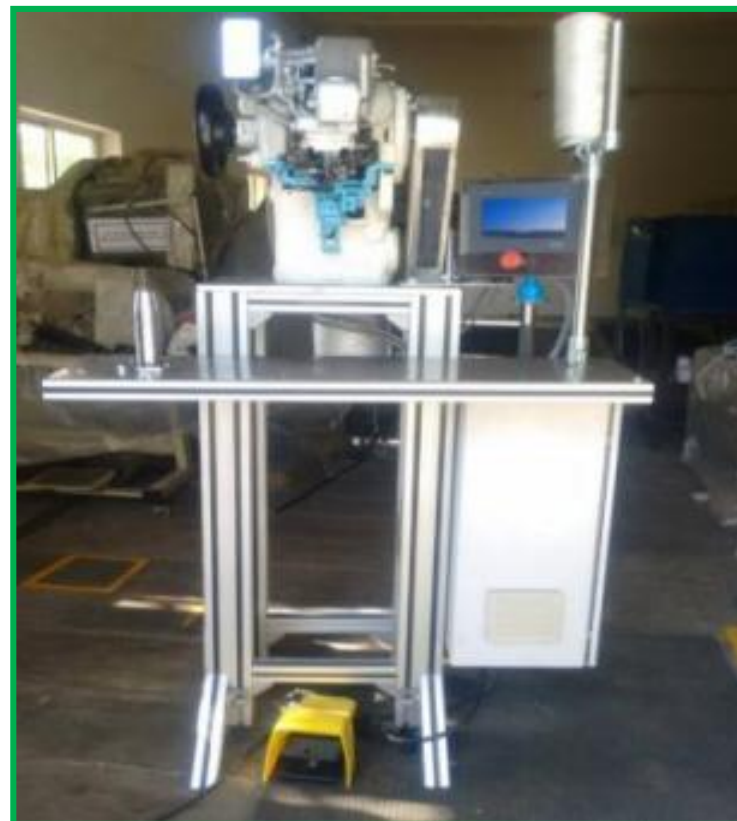
Before : Manual Inspection process



After : Machine Inspection Process



LEAN MACHINE

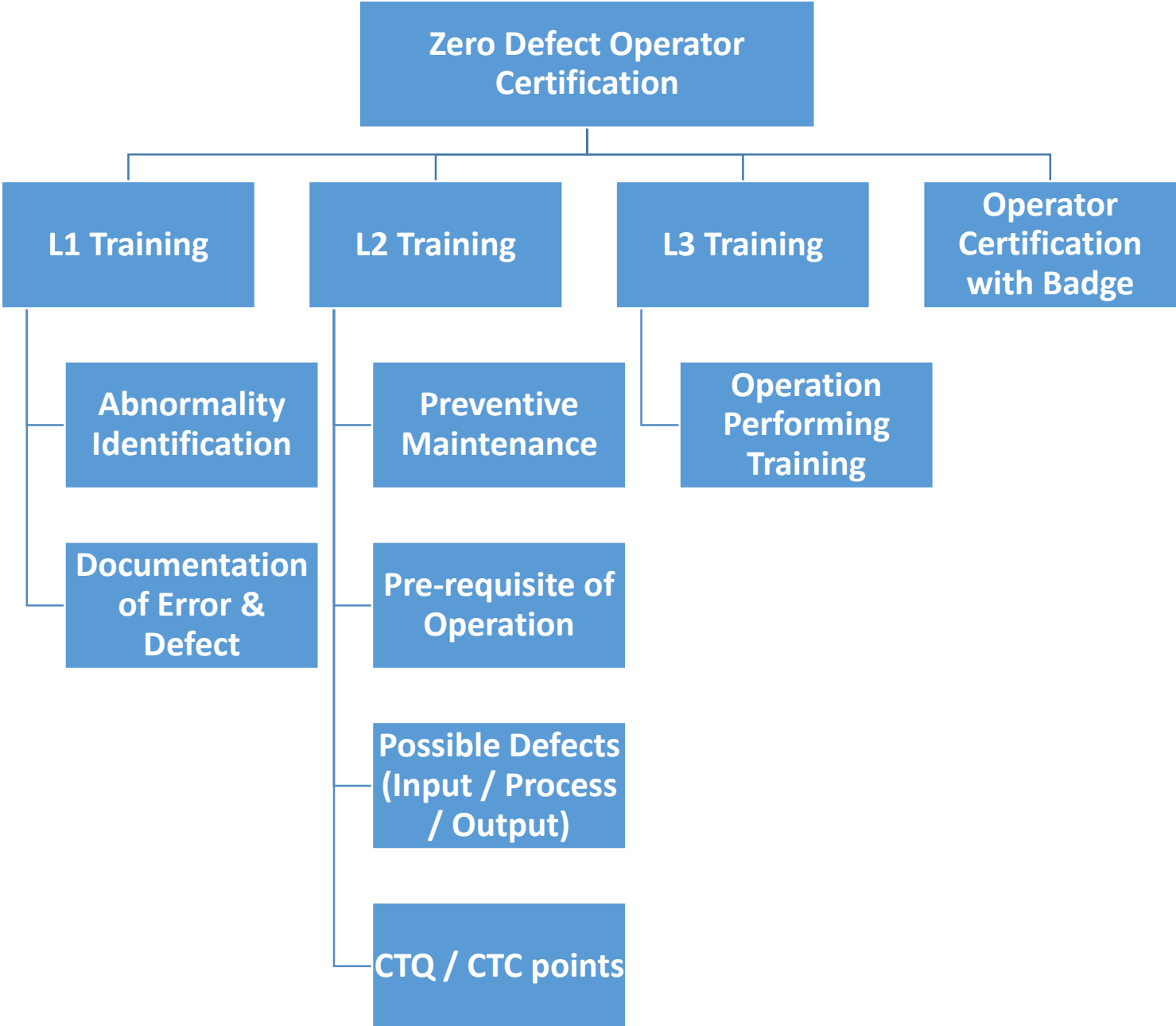


BENEFIT

- Weight of the m/c reduced from 700 kgs to 150 kgs
- Electrical motor to Servo motor
- Power saving from 3 Hp to 1000 watts
- Cost saving INR 1707 per month
- Noise Reduction from 90 db to 80 db
- Floor space saving 3 sqft



Zero Defect Operator Certification





Thank you