Infusing Modern Technology for Competitiveness

A case Study : Gilard Electronics Pvt.Ltd.

Excellence in Digitization

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Gilard won the ACMA Gold award for "Excellence in Digitization"

Gilard Electronics Pvt.Ltd.

- Gilard Electronics Pvt. Ltd in Mohali is a 53 year old company manufacturing electronic components for the automotive industry
- We make Auto-Electrical Parts for almost all the major Tractor, Truck and Car Manufacturers. Most of our supplies are thru Tier 1 Suppliers.

Gilard
explore more...

Clients at a Glance

Logos depicted on Top are registered Logos of respective Companies for whom we are T1 or T2 suppliers

Gilard Electronics Pvt.Ltd.

- Before 1987, the company had its major share of problems in order monitoring, production planning, raw materials procurement, storage and control of inventories.
- They started 'computerization' in 1987 to only control the issue and receipt of material in stores and thereby maintain online stock of raw materials and child parts.
- From thereon they went on to sales and billing, control of finished goods, then adding stocks under final inspection, under assembly, in production shops, in central stores, raw material stores, scrap stores and even in incoming inspection area.

A Case Study
How Gilard used Technology to improve their working

- Today all their production planning, material purchasing, production data control, machine process data control, production cycles, production efficiencies, drawings and specifications control, sales and billing, financial accounting, HRD (payroll, Trainings and PMS),TPM are all online
- New Product Development based on APQP-PPAP is also a part of it.

Work Flow at Gilard

- Gilard has multiple levels of manufacturing.
- Plastic Granules are moulded into Plastic parts.
- Brass / Steel rolls are stamped in the Press Shop into tags and terminals.
- Rods are milled and turned into machined parts in their Machine Shop.
- The Metal parts are electroplated in their Plating Shop.
- Gilard also procures bought out items from various suppliers / vendors.
- The Finished Product is assembled on Assembly lines.

Logistics at Gilard

- Gilard makes 1588 types of products.
- Total finished parts produced and sold per month are more than 6,00,000.
- Total child parts produced per month are more than 40,00,000 nos.
- Gilard uses 3480 types of Raw Materials, Child parts, Chemicals, Packing Materials every month.
- They have 1 person in Purchase.
- They have 1 ERP to handle it all.

What is the work equation?

1000s of products and models **X** 1000s of Child parts and raw materials **X** 100s of suppliers **X** 100s of customers **X** 100s of machines and processes **X** rising cost of inputs and labour **X** market resistance to increase the selling price **X** the increasing quality needs of the customer

= **Chaos** ^{2}

The sheer numbers involved can be overwhelming... just not manually manageable. Hence the urgent need to use modern technology to sustain and make your business grow.

Competition

The industry today is facing severe competition.

The customers' needs in terms of quality, performance, Product looks and added functionalities are ever increasing.

Competition from traditional sources as well as companies using disruptive marketing is increasing.

The cost of inputs like raw materials,energy and fuel,labour are increasing.

The customer and the competition does not allow us to increase the selling price.

With the selling price remaining same or even coming down and the cost price going up, definitely our profitability is getting hit.

What we need to do?

Improve Quality	Improve Productivity	Improve work Efficiency
Reduce Wastage	Reduce Time To Market	Reduce Response Time

How we can do it ?

In very small operations,it might be possible for the entrepreneur to physically monitor and control these things. However as operation sizes grow it may not be physically possible for him to do so.

This is where

Infusion of modern technology

comes to the rescue.

What is this Modern Technology?

All the information available in the Company should be in the **Digital media** and not on paper, so that the same information is **stored in the Central Data base** for **company wide accessibility in real time** and used in various Areas for **Analytical, Decision making** or subsequent working.

All this information should not be force fed in the system, but should be **automatically gathered** in routine working or through **use of IOTs**.

How it works

Today almost all the manufacturing Industries are TS 16949 or at least ISO 9001 certified.

We understand and have implemented the required systems. However for most of us, the systems implementation and continuous improvement is a challenge as it involves lots of paper work and documents, which we sometimes are unable to interlink.

Adding a Software based solution that systematizes your work flow, ensures implementation, provides checks and reports for monitoring and speeds up and even automates your work would be the required next step.

How it works (contd.)

A software that starts with New Business Development based on Risk and Relevance, New Product Development based on APQP and PPAP, covers for all other aspects like PLM, Production, Quality, Sales, Purchase,Inventory Control,Document Control, Accounts, HR, Skill Development, TPM and everything else required by a manufacturing Company.

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This software should work in a seamless manner, covering all the operations and logistics of our work.

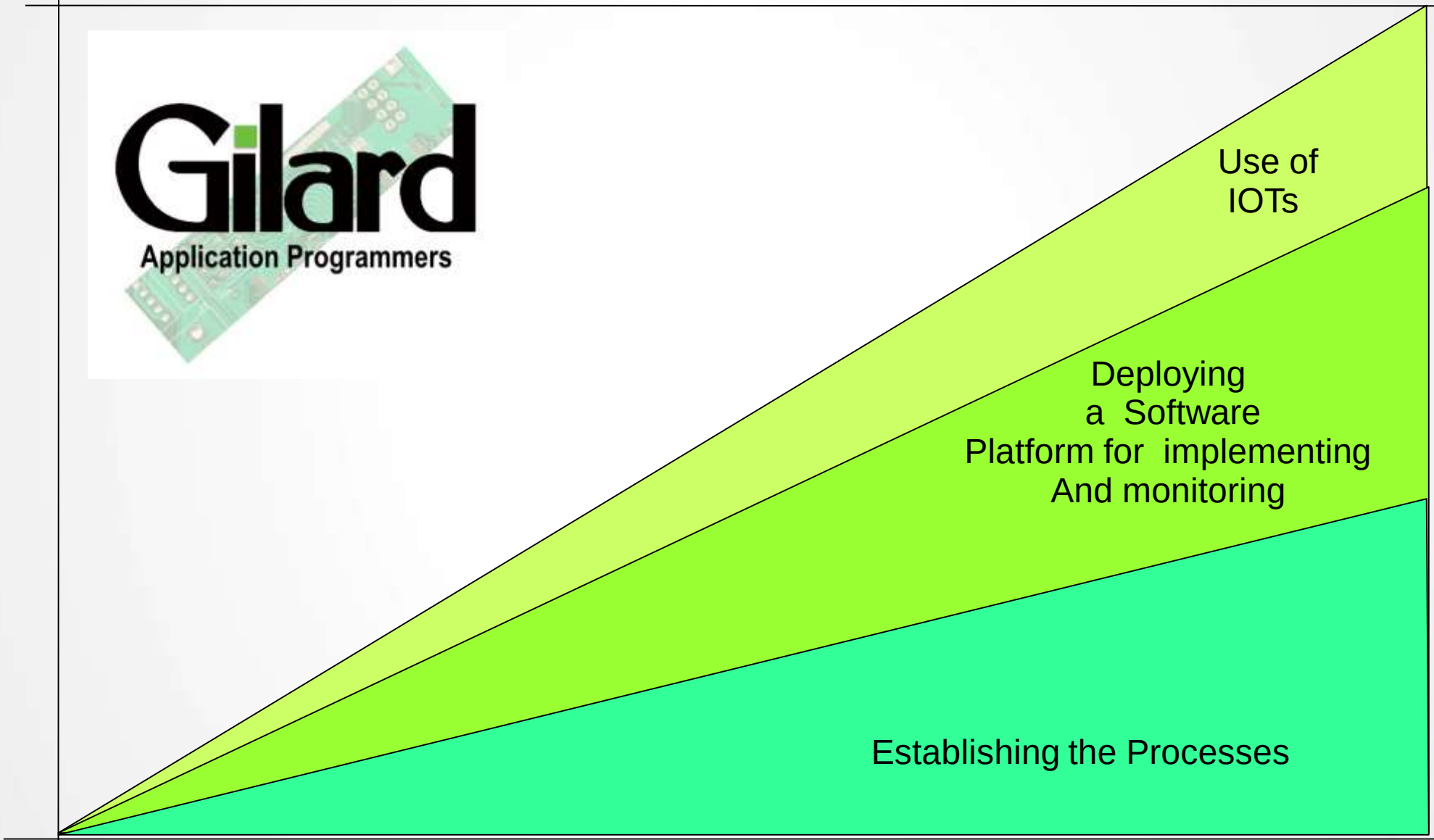
It should be linked to a common central data base wherein all transactions get recorded and can be retrieved by the next work station.

How it works (contd.)

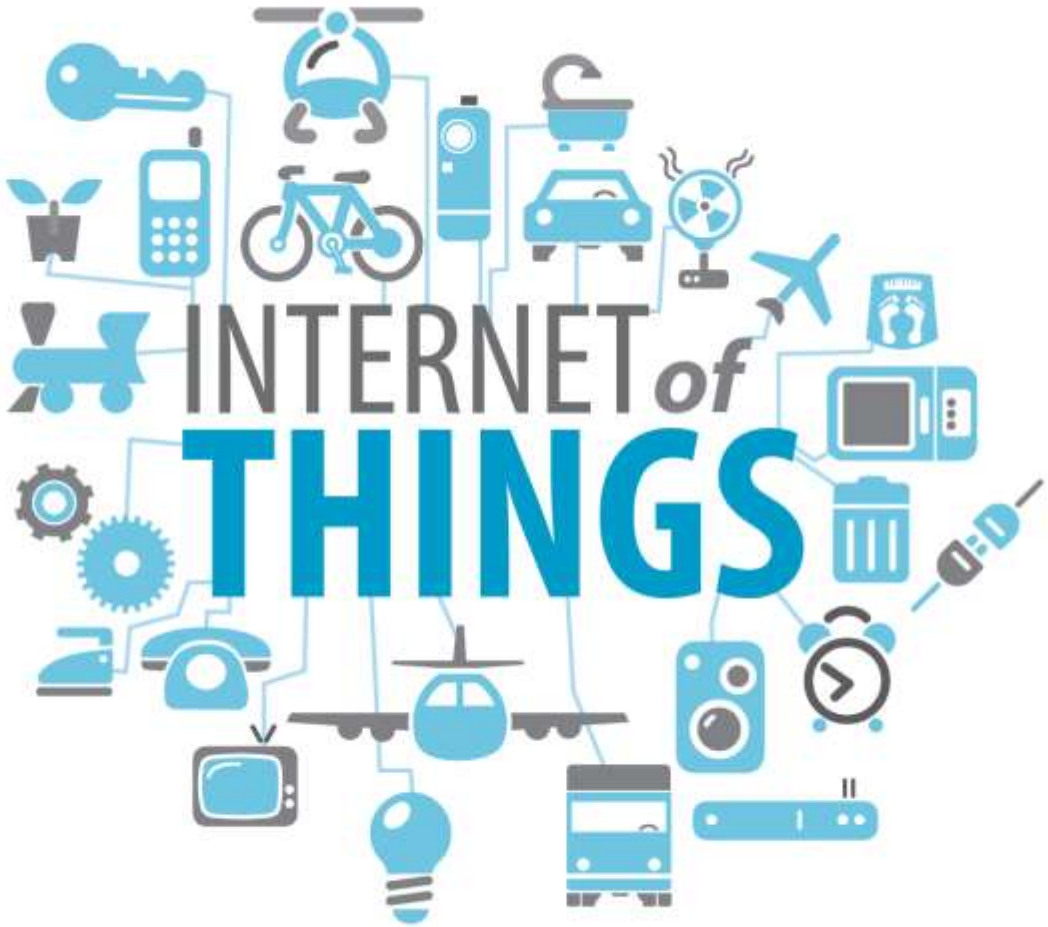
Next step of Technology infusion is use of IOTs.

Digitization

Gilard
Application Programmers



IOTs Internet of Things



IOTs What things?

A thing, in the Internet of things can be

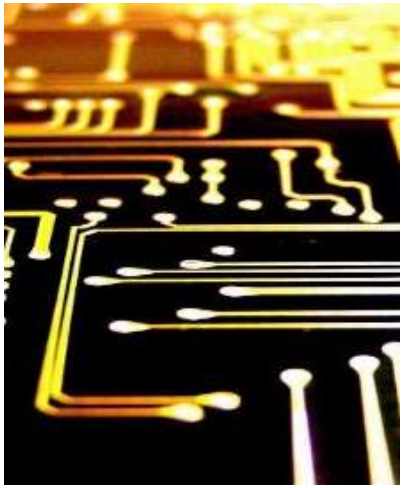
literally everything and anything.

Any natural or man-made object that can be assigned an IP address and provided with the ability to transfer data over a network.

Unique Identity

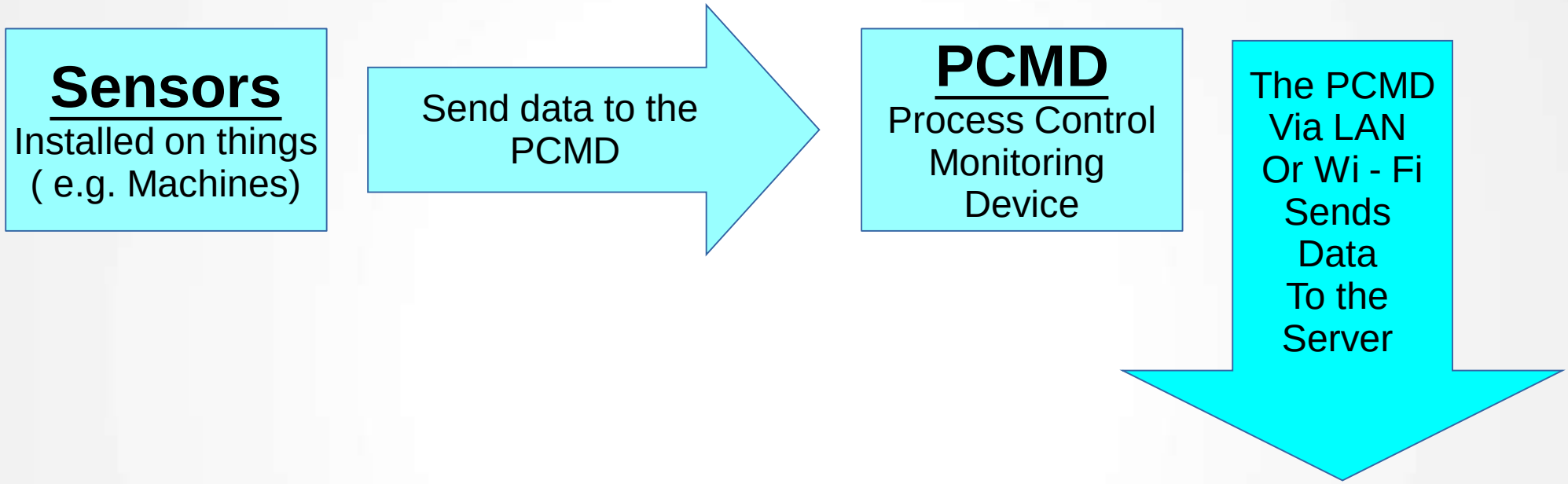
Ability to communicate

Ability to sense

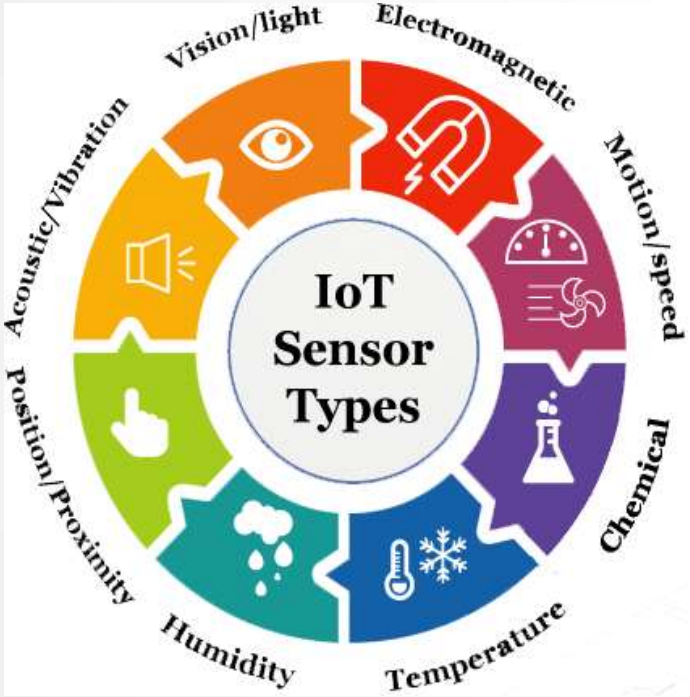


Controlling Mechanism

Data Flow Diagram



Sensors



The Analog sensors can capture actual values like temperature, speed, RPM, humidity, pressure, linear movement, current, voltage, resistance, time cycles etc.

The Digital sensors can be configured to capture the time between 2 cycles to record the Production Cycle times. With this we can see the min / max / mode / average of the cycle times. The count or quantity produced etc.

Input Device

Biometric - v1.1

Features

- Connected via LAN
- Connected via Wifi
- Can be used for attendance systems & monitoring employee movement in real time
- Can also be used to authorise and record the person performing the process.

GAP O SM
It's Awesome!

PCMD

Process Control & Monitoring Device

PCMD - v1.0

Features

- Connected via LAN
- 12 digital ports

GAP O SM
It's Awesome!

PCMD

Process Control & Monitoring Device

PCMD - v2.0

Features

- Connected via LAN
- Connected via Wifi
- 12 configurable ports
- Analog / Digital
- Using potential & non-potential sensors

GAP O SM
It's Awesome!

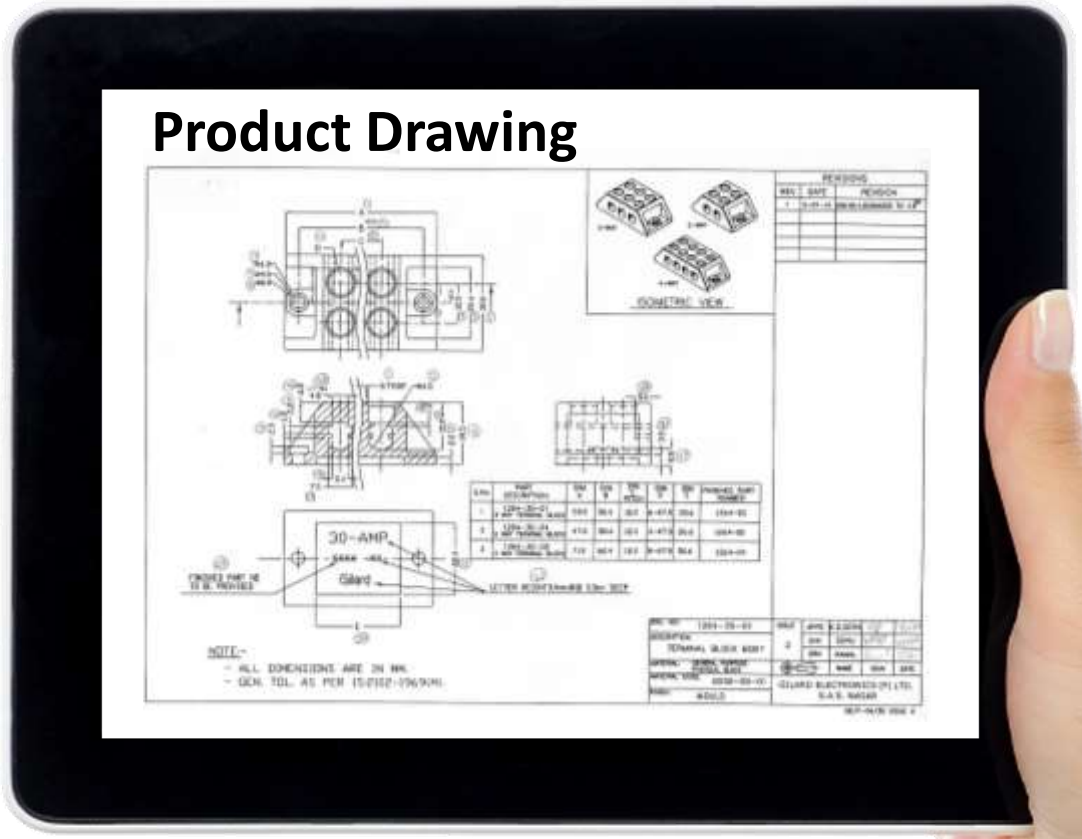
Server

Local server or Cloud Server

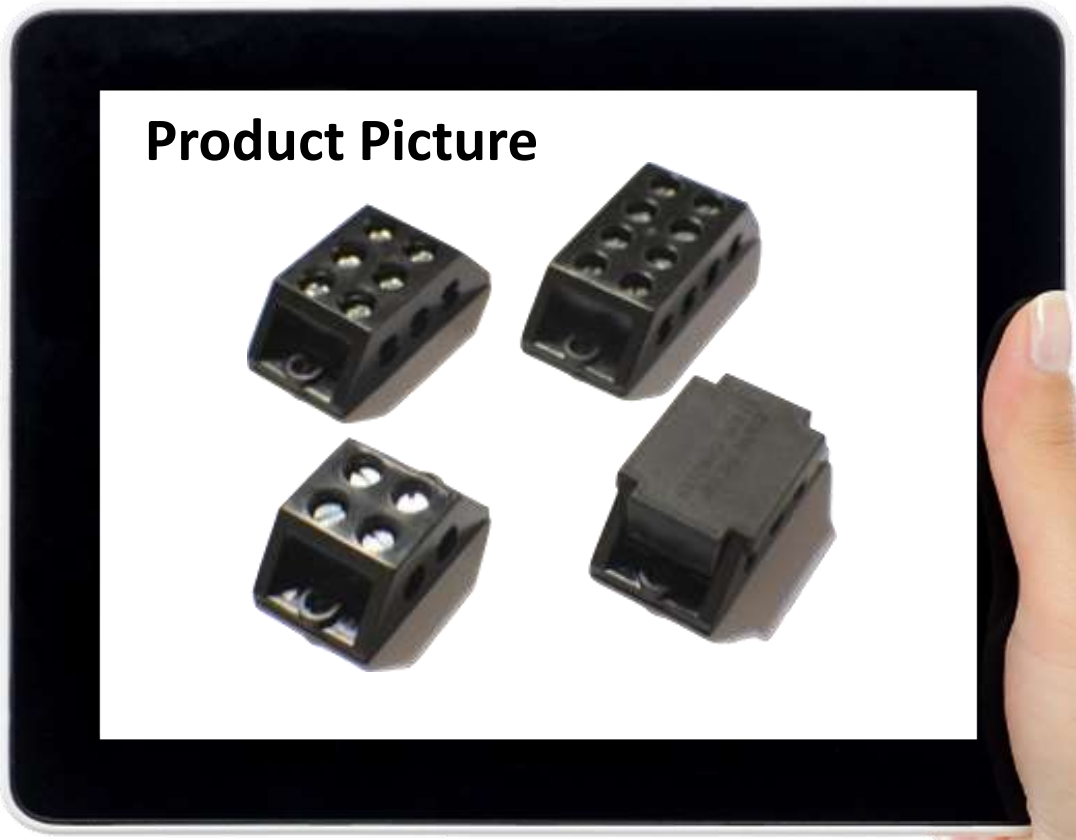
The data can be stored in

-an On-site Server
Or
-a server on the Cloud

Display Devices



Display Devices



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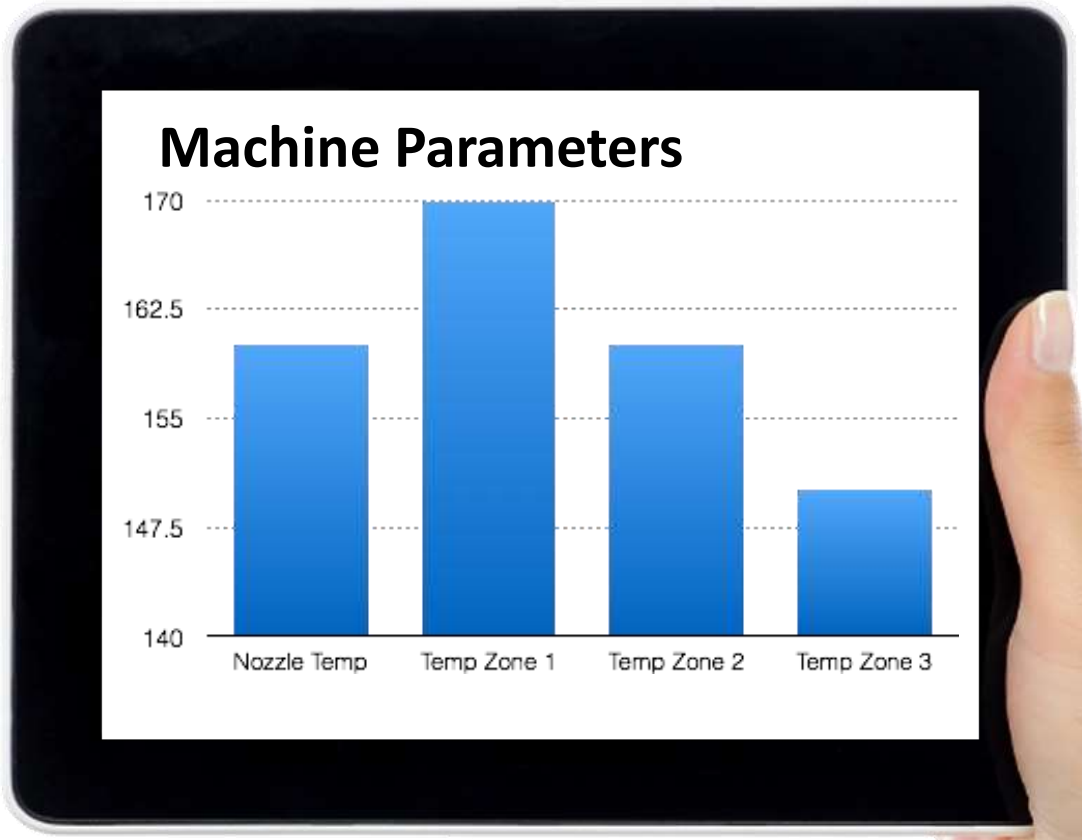

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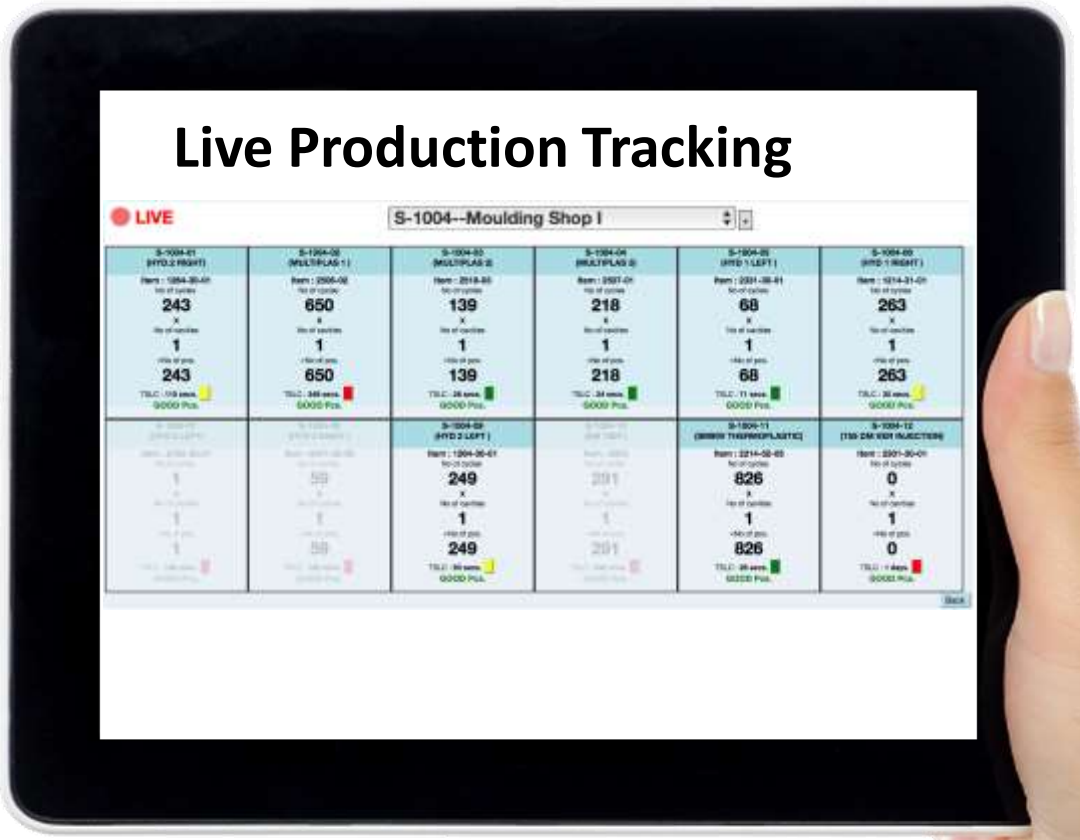
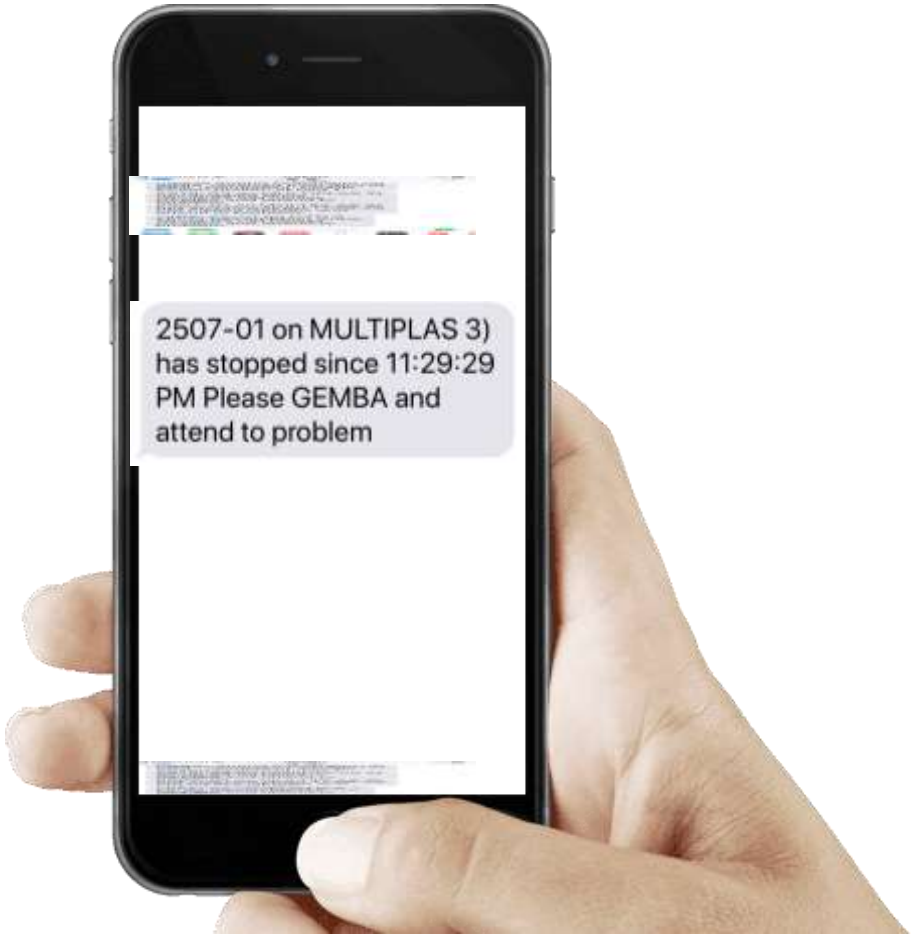


Live Display on Machines :

With Interactive Screen and Communication

Escalation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How Gilard did it

At Gilard, we have been using computers and developing software (ERP) since 1987.

The word ERP was coined in 1992.

The software, till 2015 was in DOS environment

Only in 2015, we re-wrote our entire software in newer technologies and then enhanced them to include IOTs.

GAP-OSM
(Operating System for Manufacturing)

We have a separate division :

Gilard Application Programmers LLP

GAP LLP has a product which is called GAP-OSM which is the base of DIGITIZATION in Gilard.

They also make the customized PCMD devices and Sensors

They are also offering these products to other Industries and helping them with Digitization.

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Thank you