WHAT is the LOW HANGING FRUIT in INDUSTRY 4.0 Implementation & WHY you should eat it

WHY

IS INDUSTRY 4.0 ADOPTION VITAL FOR MANUFACTURING?

THREE PROBLEMS OF MACHINE SHOPS

➤ UNPLANNED STOPPAGES OF MACHINES

Production Loss

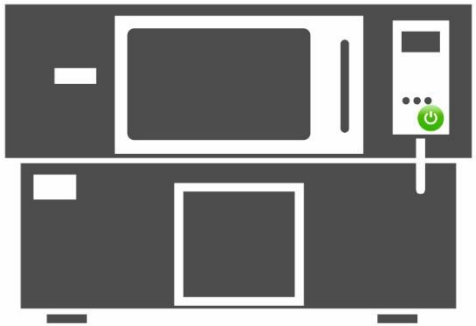
Delayed Dispatches

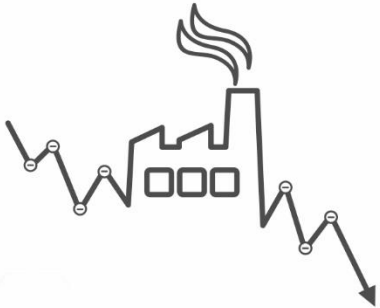
Wasted Labour

Upset Customers & Damage Reputation

- **EXCESSIVE TIME SPENT IN SCHEDULED STOPPAGE FOR TOOL CHANGES, JOB SETUP & OPERATOR BREAKS.**

POOR PERFORMANCE OF OPERATORS





WHY IS ADOPTION OF INDUSTRY 4.0 TECHNOLOGIES DELAYED or AVOIDED?

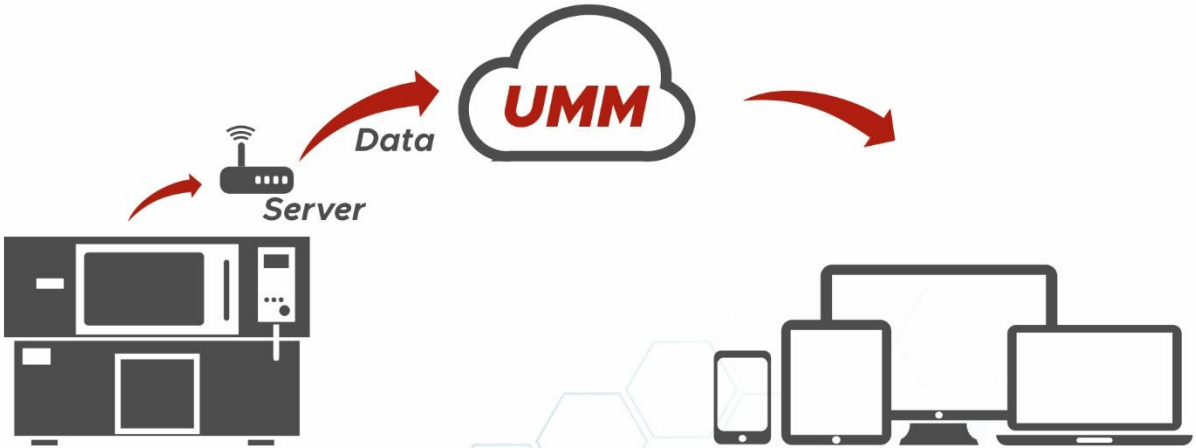
- Industry 4.0 implementation seems **COMPLEX**
- Industry 4.0 implementation seems **EXPENSIVE**
- Industry 4.0 implementation is believed to require lots of **EXPERTS** inside the organization & some as consultants

WHY YOU SHOULD PLUCK & EAT THE LOW-HANGING FRUIT IN INDUSTRY 4.0 IMPLEMENTATION

- It gives immediate rewards which ENERGIZE & ENTHUSE the organization.
- It REMOVES the fear & doubt about Industry 4.0 implementation being complex, expensive or requiring experts.

WHAT IS THE LOW-HANGING FRUIT IN INDUSTRY 4.0 IMPLEMENTATION

- Cloud based Universal Machine Monitoring (UMM) is THE low-hanging fruit in Industry 4.0.



WHY IS UMM THE LOW-HANGING FRUIT?

There are two characteristics of a low-hanging fruit in business:

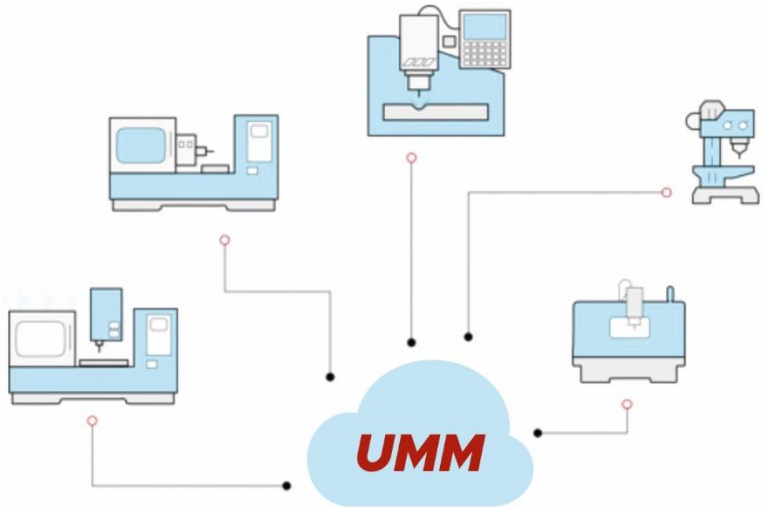
- It is easily accessible (and affordable) and implement able i.e. it requires very little effort & resources.
- It gives immediate returns that far exceed the investment.

UMM BENEFIT # 1: EASY ACCESS & IMPLEMENTATION

- Marshall is the single source technology provider and UMM is very economically priced.
- Implementation requires no IT Infrastructure (Cabling, networks, servers, UPS, etc)

CLIENT PC
SHOP FLOOR
HMI
SERVER
SWITCH
INTERNET

- It is a Plug and Play solution that takes required data from machine to secure cloud (Microsoft Azure) through dedicated IoT Box plugged into any machine (CNC or non CNC) with any type of control (CNC, PLC or simple switchgear)



- All authorized people instantly get reports from the data which is analysed by 'Software on Cloud'

UMM BENEFIT # 2: IMMEDIATE RETURNS THAT FAR EXCEED THE INVESTMENT

Very well analysed reports tell you exactly how your machine performed in any shift on any day. All the three components of OEE (Availability A, Performance P & Quality Q) are clearly visible in detail which allows managers to initiate action and bring about massive improvements in OEE.

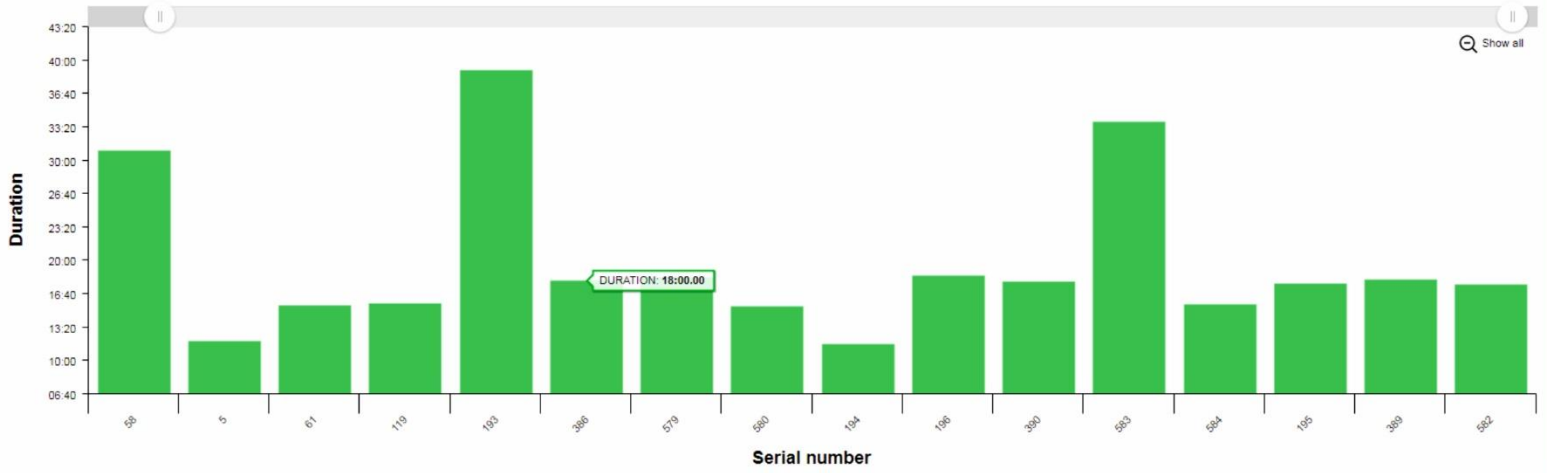
Template | First | Previous | Next | Last | GoTo | Sort | Filter | HighLight | Charts | Drilldown | Back | Export | Mail | Settings

From : 01/01/2019 06:00:00 AM
To : 02/01/2019 06:00:00 AM

Big Downtimes

Data | Downtime durations

Downtime durations



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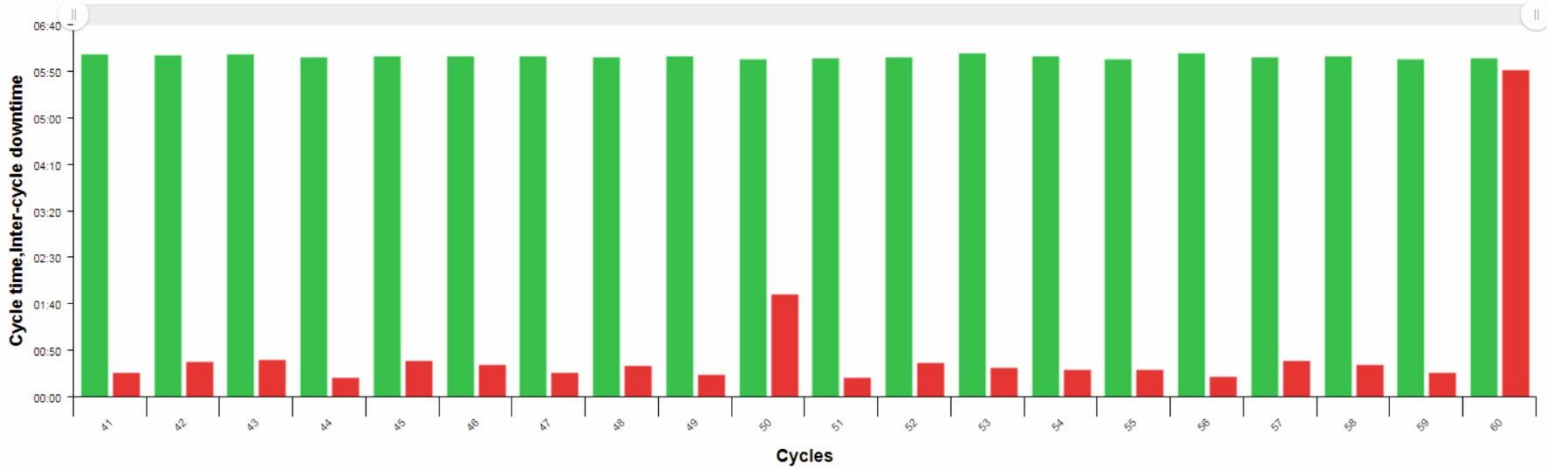
To : 02/01/2019 06:00:00 AM

Cycle Details

Data | Cycle details

Cycle details



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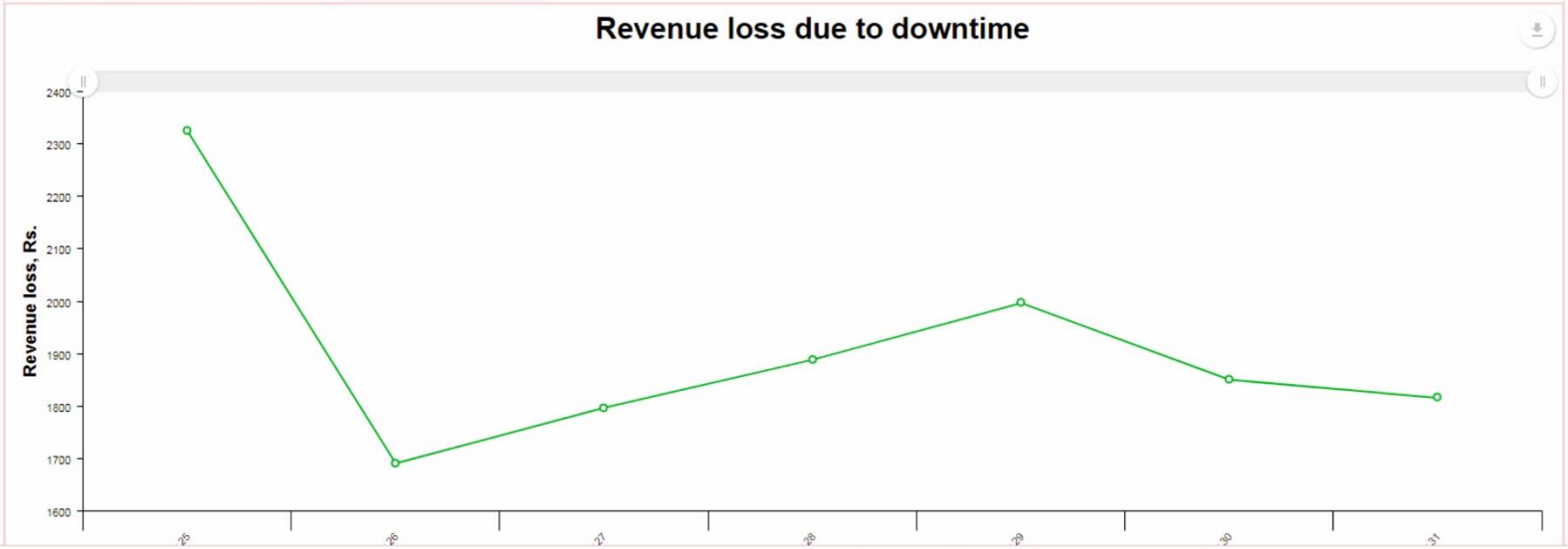
From : 01/01/2019 06:00:00 AM
To : 01/02/2019 06:00:00 AM

Downtime trend

Data | Downtime | Revenue loss due to



From : 01/01/2019 06:00:00 AM
To : 01/02/2019 06:00:00 AM

Downtime shift start-end

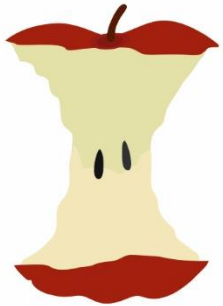
Data

Machine name	Shift	Cell name	Shop name	Operator ID	Operator name	Shift start	Shift end	Downtime at start	Downtime at end
VMC-N800-3	Shift 1	Cell	Shop	2	operator	03-01-2019 06:00:00 AM	03-01-2019 02:00:00 PM	00:16:14	00:10:02
VMC-N800-3	Shift 2	Cell	Shop	2	operator	06-01-2019 02:00:00 PM	06-01-2019 10:00:00 PM	00:00:04	00:12:10
VMC-N800-3	Shift 3	Cell	Shop	2	operator	09-01-2019 10:00:00 PM	10-01-2019 06:00:00 AM	00:00:31	00:00:00
VMC-N800-3	Shift 1	Cell	Shop	2	operator	13-01-2019 06:00:00 AM	13-01-2019 02:00:00 PM	00:00:14	00:02:10
VMC-N800-3	Shift 3	Cell	Shop	2	operator	13-01-2019 10:00:00 PM	14-01-2019 06:00:00 AM	00:00:11	00:00:00
VMC-N800-3	Shift 2	Cell	Shop	2	operator	16-01-2019 02:00:00 PM	16-01-2019 10:00:00 PM	00:00:02	00:00:00
VMC-N800-3	Shift 1	Cell	Shop	2	operator	17-01-2019 06:00:00 AM	17-01-2019 02:00:00 PM	00:00:30	00:07:11
VMC-N800-3	Shift 1	Cell	Shop	2	operator	18-01-2019 06:00:00 AM	18-01-2019 02:00:00 PM	00:04:07	00:00:00
VMC-N800-3	Shift 2	Cell	Shop	2	operator	21-01-2019 02:00:00 PM	21-01-2019 10:00:00 PM	00:00:24	00:00:00
VMC-N800-3	Shift 2	Cell	Shop	2	operator	23-01-2019 02:00:00 PM	23-01-2019 10:00:00 PM	00:17:06	00:03:16
VMC-N800-3	Shift 3	Cell	Shop	2	operator	25-01-2019 10:00:00 PM	26-01-2019 06:00:00 AM	00:01:00	00:17:02
VMC-N800-3	Shift 1	Cell	Shop	2	operator	30-01-2019 06:00:00 AM	30-01-2019 02:00:00 PM	00:01:26	00:08:24
								00:41:49	**01:00:15**

- UMM allows the users (Production Manager, Plant Head) to set ACTION ALERTS (for supervisors & Engineers) based on the particular machine and the need of the line/cell to which it belongs. These alerts eliminate the need for experts to go through data & then initiate action. So **AUTONOMOUS ACTION HAPPENS 24 x 7.**

CONCLUSION

PLUCK & EAT THE LOW-HANGING FRUIT TODAY...GET UMM



Marshall

TRANSFORMING Manufacturing...*Smartly!*