

# Benefits of Plast 4.0



# Why Industry 4.0?

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- Globally, Industry 4.0 is changing the way manufacturing companies carry out their day to day operations
- Efficient Manufacturing is all about following a fixed process, a philosophy proven by Toyota Japan called **Lean Manufacturing** which consists of the following
  - **Kaizen** – small incremental continuous improvements leads to major positive results
  - **Avoid over-production** – integration of production planning and production process
  - **Avoid defects** – monitor process regularly to avoid defects
- Globally, manufacturing technologies (OT) are a little late in catching up with Information Technology(IT) due to various factors, this is the right time to bridge this gap as all the ingredients viz., hardware, software, edge-computing and cloud-computing are extensively available at a cost which is affordable by any manufacturing company.

## Industry 4.0 : Cost Benefits / Value Proposition

Value of Digital Transformation using Industry 4.0/IIoT technologies could vary from plant to plant and operations to operations depending on the maturity levels of existing operations.

Given below are potential value gained by implementation of Industry 4.0 technologies, based on feed back from industries.

Up to 30%	Labor Productivity / Effectiveness
Up to 40%	Downtime Reduction
Up to 90%	Planning Accuracy Improvement
Up to 30%	Improvement in Overall Productivity/Performance/Throughput
Up to 25%	Quality improvement
Up to 30%	Reduction in Inventory Holding Costs
Up to 20%	Savings in Energy and Material Costs
Up to 100%	Savings in Paper consumption – Paperless Operation

## Platform Benefits of Crunch

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- Over 3500 Hrs of manpower savings per month
- 100% Data accuracy
- Automated Reports
- Data Transparency, visibility at the click of a button
- Threshold based Email, SMS & App alerts
- Digital Transformation of Operations
- Paperless Factory
- Manpower Focus on Improving efficiency
- Condition based Monitoring (CbM) of all equipment
- Digitization of Preventive, Periodic & Predictive Maintenance
- Self tuning Planning Module
- Complete plant energy monitoring at equipment level

Manpower Savings Analysis							Total Time Saved Per month (hrs)
Time saved with Crunch™							
	Per Machine	Number of Machines	Total Time per shift	Manual Shift Report generation	Manual Daily Report generation	Monthly Monthly Report	
Manual Data Entry	2	60	240	45	60	180	637.5
	minutes	minutes	minutes	minutes	minutes	minutes	hours

The above calculations are provided based on the Man Power savings only, the other benefits are intangible in nature and will depend on the platform usage:

- With a savings of 637 Hrs per month, the ROI will happen within 18 Months from installation, this is assuming the worst case scenario of man power savings the only advantage you are able to get from the platform
- With better analysis and optimization actions taken in the shop-floor you will be able to achieve ROI around within 12 months

IN SUMMARY

*ROI in Digital Transformation isn't purely monetary in nature, overall technology adoption results in better outcomes at the shop-floor level due to various aspects such as improved productivity, reduced downtime and power consumption, these are intangible benefits of the system, it is similar to difference between an Inland letter vs an email, traditional call taxis vs Ola/Uber, traditional movie watching vs OTT*

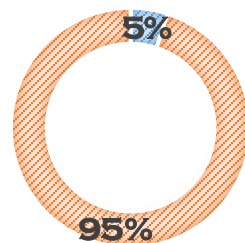




Per Machine man power savings of around 45 Mins per Shift due to automatic data collection for Production report

## MANPOWER

■ DATA ENTRY TIME    ■ AUTOMATIC DATA COLLECTION



Only Rejection Counts and downtime reasons have to be entered into the system

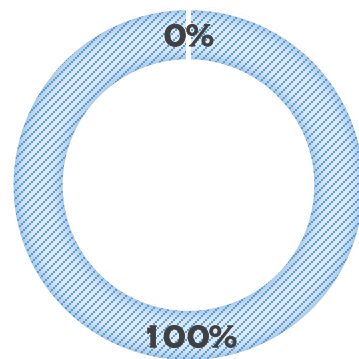
**3510 Hrs Saved  
per month**



Automatically collected data has 100% accuracy, no requirement of any reconciliation

## MANPOWER

■ DATA ACCURACY ■ ERRORS



Only Rejection Counts and downtime reasons have to be entered into the system manually

**100% Data Accuracy for automatically collected data**



No Requirement of manually generating Reports/MIS, automated reports will get delivered as per schedules as a result, timely intervention/action is possible

**All Reports  
Automated**

- All production/quality and Downtime data will be available accurately for everyone to analyze
- No Loss of even 1 Minute of downtime or 1 shot
- No data fudging

**100% Data  
Transparency**

**Downtime and Rejection threshold based alerting will make critical events delivered to the stake-holders as per requirement to take timely action**

**Proactive action vs Post Mortem**

**Threshold based  
configuration of alerts**

- Adopting technology improves the general awareness within the shop-floor towards optimizing efficiency
- Technology will serve as a motivating factor to follow process by avoiding manual work to do menial tasks such as data entry

## Digital Transformation of operations

- Track energy utilization at equipment level
- Optimize operations by shutting off auxiliaries when machine is down
- Monitor Material utilization at granular level to reduce/eliminate pilferage

**Reduce energy costs**  
**Track material consumption**

- **Employ condition based monitoring of all equipment**
- **Vibration/temperature and acoustic analysis can lead to predictive maintenance**

**Reduce/Eliminate sudden  
equipment breakdown**

- Green operations by moving towards paperless operations
- All log books, ISO Forms, Checklists etc. can be moved into the Crunch(tm) Digital Platform

## Paperless Operations



Man Power saved can be re-assigned to focus on improvement of key metrics through data analysis

Deploy manpower for process improvements – not for data collection

**Improve Manpower  
Effectiveness**

- Integrating with SAP will further remove man power dependency on Data Entry into SAP
- Real-Time Monitoring on Planned Vs Actual production is possible leading better planning for future schedules

### SAP/ERP Integration

## Future Improvements

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- All PM Activities can be scheduled through the system to avoid manual tracking of various maintenance activities
- All PM Checklists along with ISO Audit based entries can be digitized

### Preventive Maintenance Module

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