

A Foundry with Dyna4Cast

Foundry 4.0 is an integration, communication, and usage of data. It means that everything in a production line communicates with one location for data storage. A foundry or diecasting plant can be monitored remotely via our (UI) **Dyna Assist**, by the signals given by our field devices **Dyna H/W** which will transmit the data via **Dyna Gateway** giving complete access to the data on the machine. We at Dyna4cast provide industry 4.0 solutions for the foundries which will increase the productivity and at the same time making the product cycle efficient and transparent.

What it will be like with Dyna4cast? - *The image below is a visual representation of the answer.*

Raw material management

Weighing scale integration

Furnace monitoring

Spectrometer digital twin

Dyna Foundry management (DFM 4.0) -

This majorly focuses on the melting area of a foundry that includes furnace, raw material section, quality section.

The real time data such as,

- ✚ FurnaceTemperature
- ✚ Furnace heat count & status
- ✚ Furnace run and idle time
- ✚ Quality report
- ✚ Raw material consumption & Inventory management

Condition monitoring (CBM) -

Condition monitoring is versatile, it can be applied to any equipments that needs to be monitored. In the context of foundries, the utilities/assets (compressor, motor, pump, etc.,) that supports the melting process are monitored and the data such as

- ✚ Temperature
- ✚ Vibration
- ✚ Pressure & Flow
- ✚ Electricity consumption

With these data, our machine learning model will predicts the failure of the machine in advance and notify the person in-charge. With this they can keep the spare ready and can do the maintenance activity prior/if failure occurs. This will eliminates the down time and prevents costly failures. With our application **CBM** user can able to track the energy consumption, failure rate and OEE of the equipment.

Dashboard (Dyna Assist):


It is our cross platform software to visualize the data to the end user in a graphical/numerical way. An In-built BI (Business Inetlligence) helps us to analyse & process the collected data and gives us the precise condition of the machine and its procesess. Our Dyna IoT enabled weighing machine helps us to track the raw material consumption that is digitally taped, which could be used for various purposes.

It displays the production status such as,

- Real time Spectro result
- Interlocking Option for Furnace
- Real time Rejection Rate
- Quality Data Analysis and Certificate Integration
- Easy bottleneck identification
- Auto generation of test certificate once correct proposition is attained

DFM 4.0 App screens

Furnace 1 Live
1 Tonne W/O - OCT54321
HEAT NO - 21L183
RUNTIME - 8 hrs
STATUS - Charging



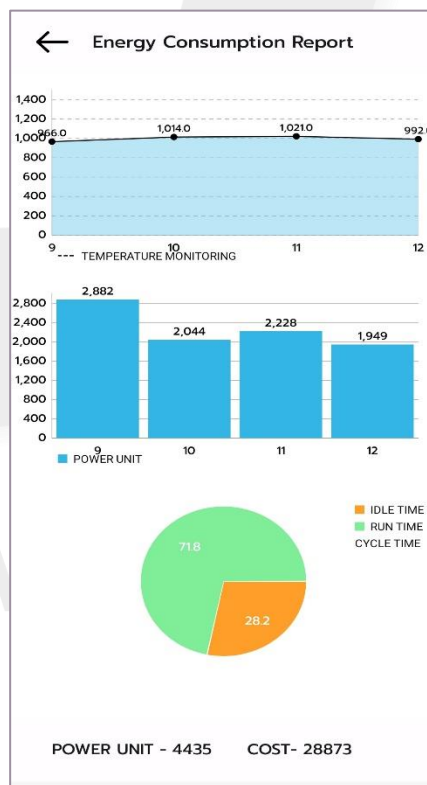
Energy Material

Melt Quality Payroll

Report Foundry 4.0

Work Order Production

WO Status Notification



Work Order Generation

Work Oder Num _____ Customer ID _____

Part ID _____ Pattern ID _____

Box Count _____ Core Count _____

Total Quantity _____

Due Date
DD MM YYYY

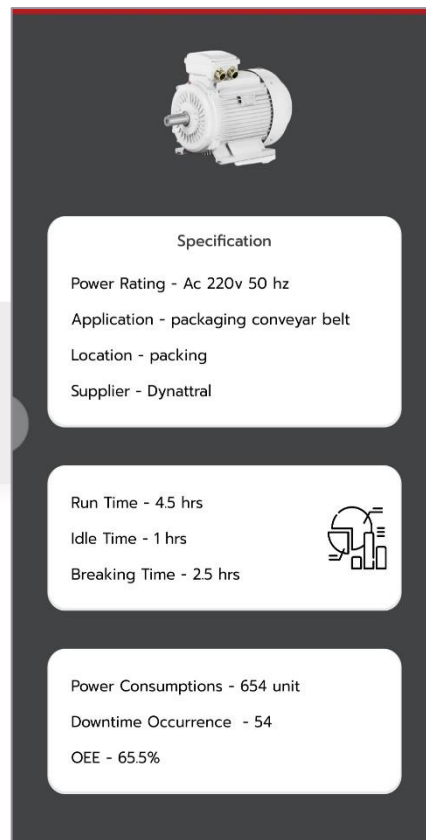
SUBMIT

Work Order Details

| CUSTOMER / SUPPLIER | Customer ID |
|---------------------|-------------|
| Sep158091 | CI/BH235 |
| Part ID | Due Date |
| BH5456 | 5-9-2022 |

| CUSTOMER / SUPPLIER | Customer ID |
|---------------------|-------------|
| Sep158092 | CI/BH235 |
| Part ID | Due Date |
| BH5457 | 16-9-2022 |

CBM App screens



Conclusion

The service what Dyna4cast provide is not limited to the above-described features, but also includes Auto suggestions of our BI model which can assist you during critical decision making, predictive maintenance, Payroll management, Supply chain Tracking etc., (i.e., from a raw material to a dispatched product) we support your production and take your business to the next level.