

Digital Transformation with United Manufacturing Hub

ASO Model Factory

Content

Who are we?

What we do?

What did we do with the Manufacturing Cube?

What do we plan to do with the Manufacturing Cube?

Who am I ?

Digital Transformation Specialist for ASO Model Factory

DDX Digital Transformation Consultant for Turkish Industry Management Institute

Google Developers Groups Samsun Organizer

Computer Teacher and Education Technologist

AI R&D Specialist (2020 - 2021)



Ankara Chamber of Industry Capability and Digital Transformation Center

It was established in 2018.

On lean production and digital transformation; We provide training and consultancy.

Some of Our Services

- Learn & Transform Program
- Experiential Trainings
- Digital Transformation Consultancy



We have a production line that we use in Workshop Trainings.

We produce pneumatic cylinders during training.

Our Machines

- 1 Saw Machine (Karmetal)
- 3 CNC Machine (Sinumerik VC 750)
- 1 Washing Machine (Dolfin)
- 1 Quality Control Station (Mitutoyo)

We have 4 warehouse & 1 U Shape Assembly Line



Our Machines



Saw Machine



CNC Machines



Washing Machine

We using Manufacturing Cube for the Digitalization of the Machine Line

Saw Machine

- We using vibration sensor (IFM VVB001) for understand the machine work or stops.
- We using capacitive sensor (KQ6001) for counting cutted part
- We use our own developed software to get the stop pickup type from the machine operator.



We using Manufacturing Cube for the Digitalization of the Machine Line



VVB001



KQ6005



IO-Link Hub

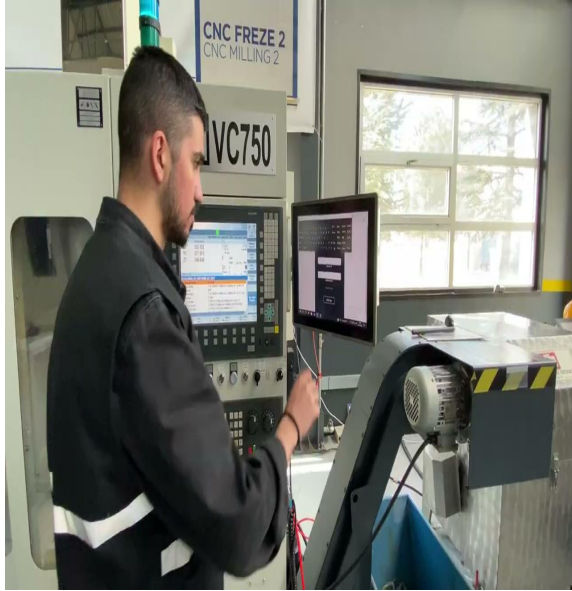
We using Manufacturing Cube for the Digitalization of the Machine Line

CNC Machines

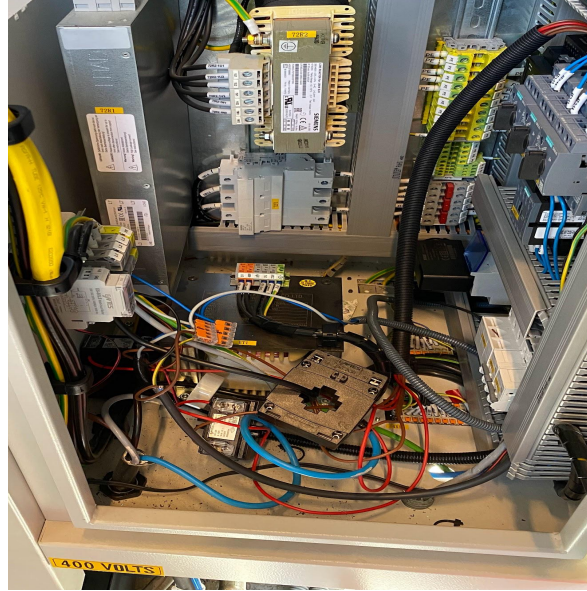
- We using current sensors (MRIoT) for understand the machine work or stops.
- Our production cube is integrated into the IQVizyon system. We share data with MQTT protocol
- We use our own developed software to get the stop pickup type from the machine operator.



We using Manufacturing Cube for the Digitalization of the Machine Line



Operator Application



Current Sensor



MrIoT

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Washing Machine

- We using vibration sensor (IFM VVB001) for understand the machine work or stops.
- We use capacitive sensor (KQ6001) to understand the door status. (Because the machine works with hot water. We need to monitor the door status in terms of health and safety.
- We use our own developed software to get the stop pickup type from the machine operator.



We using Manufacturing Cube for the Digitalization of the Factory

Integrations

All our solution partners integrate with the manufacturing cube. Thus, different solutions can work together more comfortably. Our dependence on companies disappears.



We using Manufacturing Cube for the Digitalization of the Factory

Integrations

Our solution partners completed integration to manufacturing cube;

- Logo ERP
- Canias ERP
- MrIoT
- IQVizyon
- WiserSense (OnGoing)



Logo

We using Manufacturing Cube for the Digitalization of the Factory

Web Applications

We develop web applications to manage the Manufacturing Cube. In this context, Operator application, milkrun application etc. We developed applications.



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Dashboards

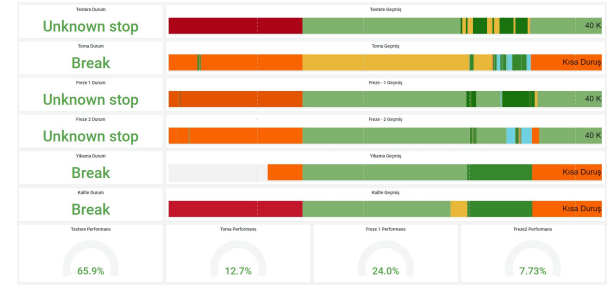
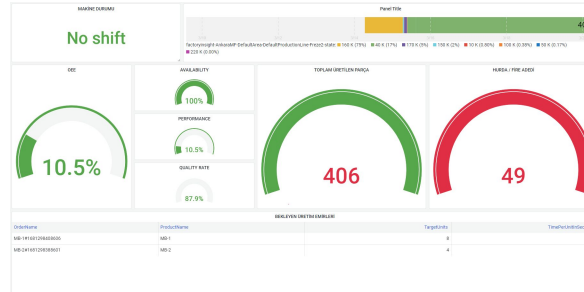
We use the dashboards we created with Manufacturing Cube to show our data. (Grafana based ones).

- Predictive Maintenance (On Going),
- OEE Dashboard,
- Condition Monitoring etc.
- Tracing Order Status



We using Manufacturing Cube for the Digitalization of the Factory

Tesis ÜZE	Kullanılabilirlik	Performans	Kalite
6.49%	9.84%	65.9%	No data
Fazla ÜZE	Fazla Kullanılabilirlik	Fazla Performans	Fazla Kalite
5.19%	20.6%	25.4%	No data
Proje ÜZE	Proje Kullanılabilirlik	Proje Performans	Proje Kalite
1.46%	18.7%	8.21%	No data
Tesis ÜZE	Tesis Kullanılabilirlik	Tesis Performans	Tesis Kalite
3.88%	77.2%	5.03%	No data

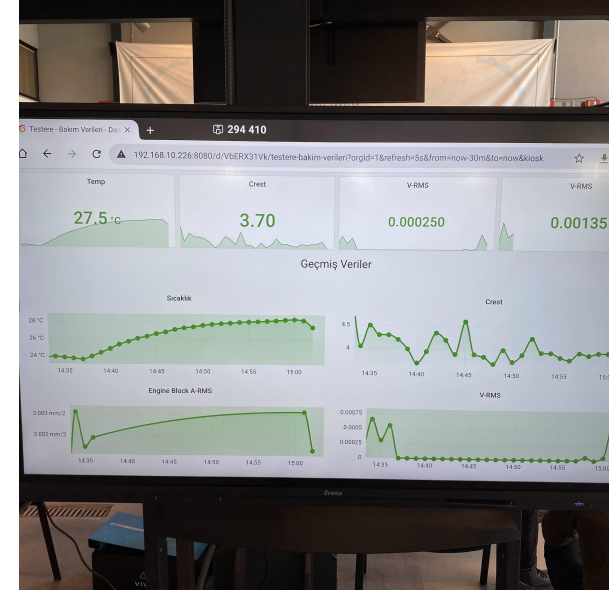


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Predictive Maintenance (On Going)

My master degree thesis subject is predictive maintenance. I am working with manufacturing cube for data collection, analysis and visualization. My project have 3 steps;

1. Data collection
2. Multiple Anomaly Detection and Anticipating Failures (Microsoft Azure)
3. Visualization to result.



Thank's

Onur Can KARAMAN

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Turkish Industry Management Institute, DDX Digital Transformation Consultant**