BUILDING THE DATA-DRIVEN

MANUFACTURING ECOSYSTEM
IoT Manufacturing Execution Platform (IMEP)

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The future of Industry 4.0 is now

SupremeSoft
YOUR reliable solution provider

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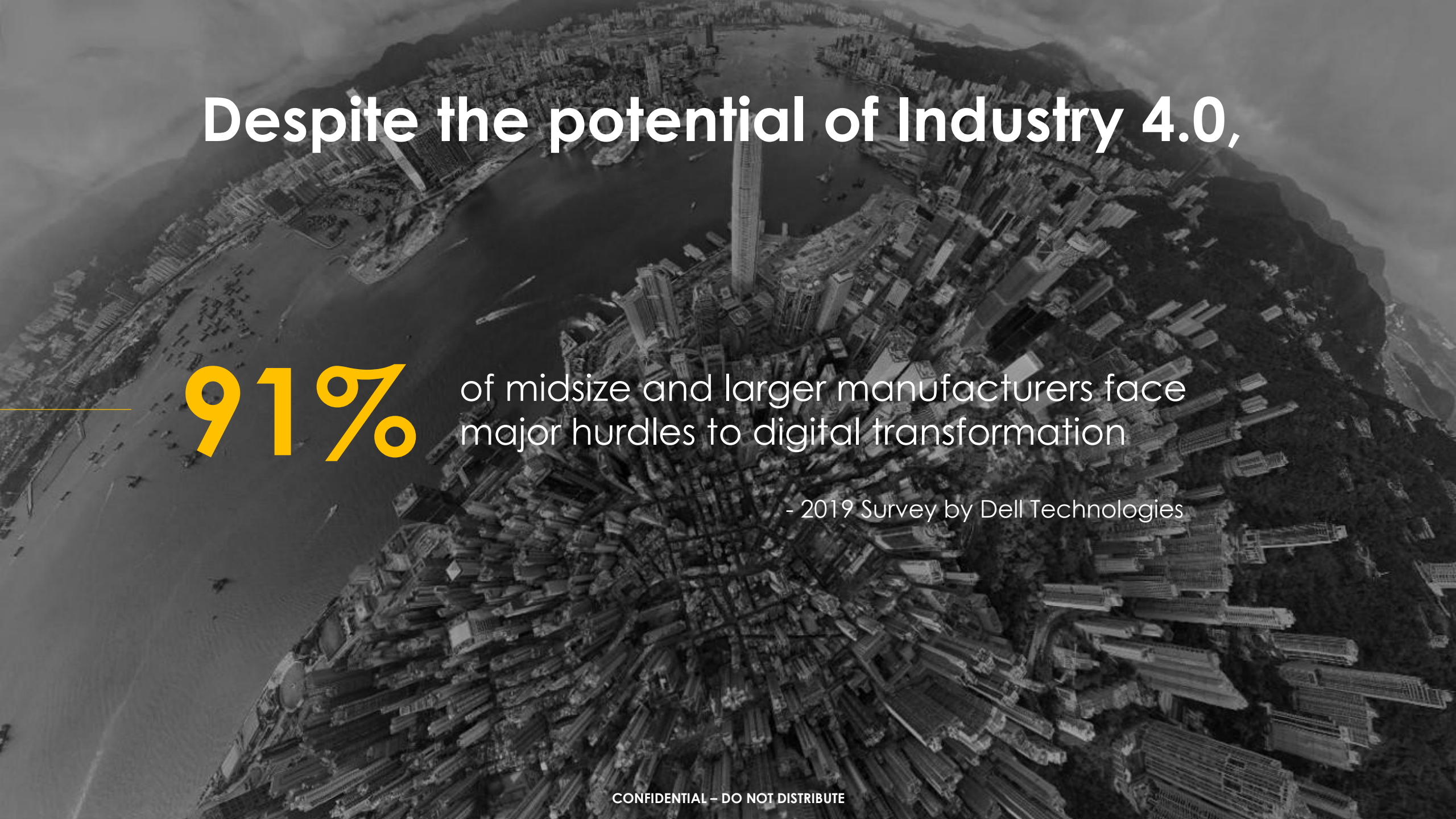

Despite the potential of Industry 4.0,

91% of midsize and larger manufacturers face major hurdles to digital transformation

- 2019 Survey by Dell Technologies

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ADOPTION BARRIERS

Manufacturers continue to face formidable challenges in digitizing their production operations.

Costs Too High

Most all digital systems in the market are cost prohibitive, much too expensive and are massive packages that we don't need or can't afford.

Difficult to Use

Toolsets in the market are not user friendly, difficult for our team to learn how to use and to maintain in the long run.

Lack of Skillsets

Our workers are not trained to use the tool properly and the toolset is not easy to learn how to use and requires too much enforcement.

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What end Customer Problems are we Solving ?

How can I

meet rising requirement on product quality?

How can I

better PREDICT AND Reduce Downtime?

How can I

optimize factory operation for higher throughput?

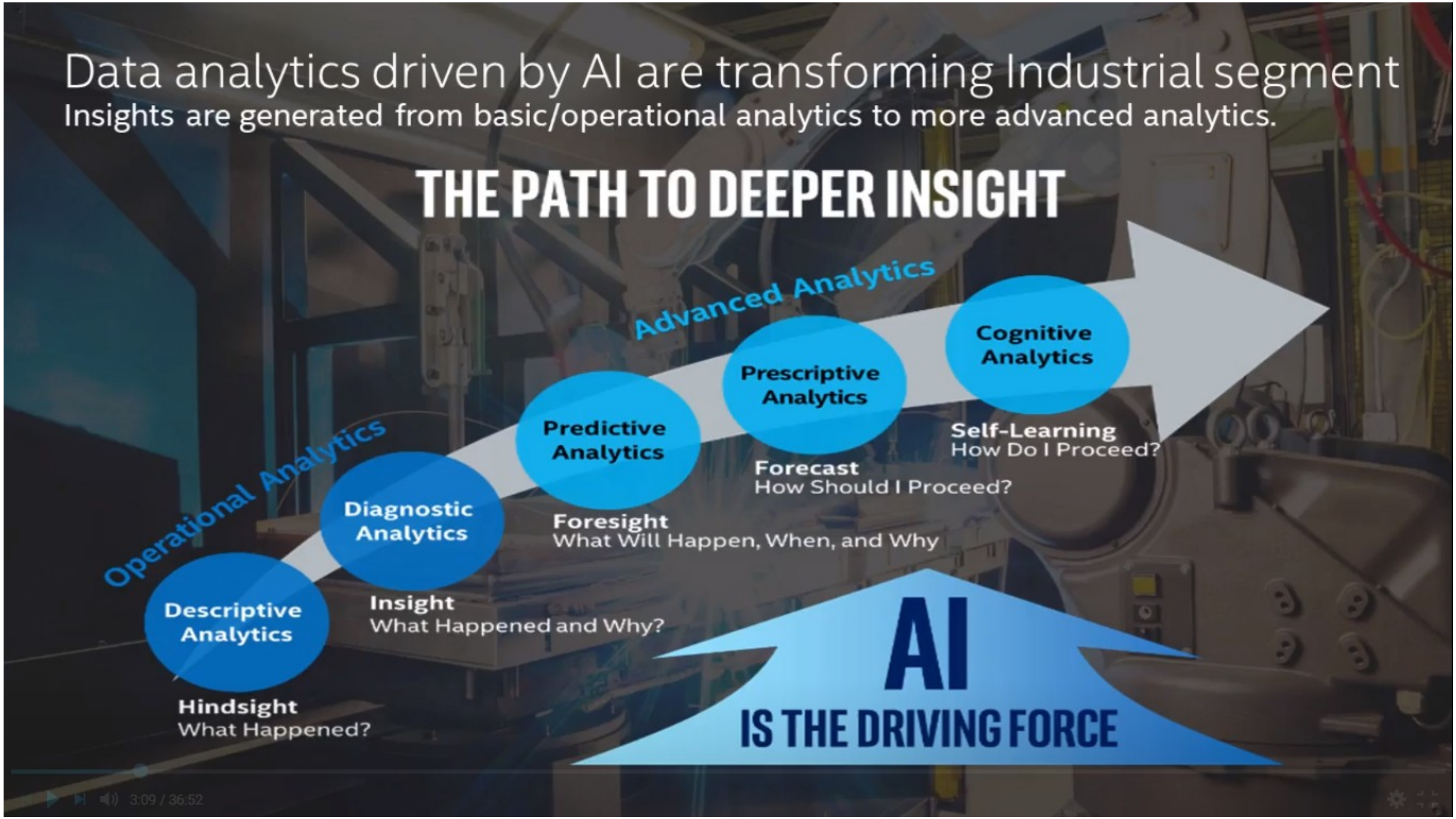
How can I

leverage latest technology for better business outcomes?

How can I STAND OUT IN COMPETITION in my industry?

Data analytics driven by AI are transforming Industrial segment

Insights are generated from basic/operational analytics to more advanced analytics.



Industrial players at different Edge AI Maturity level has different needs

-Industrial 4.0 Edge AI Maturity Model for consolidated analytics

4.0 INDUSTRY

Analytic outcome->Prescriptive action

Deterministic control/Orchestration

Vision/Time series Analytics

Edge Compute

Vision/Time series Data Ingestion

Visualization tools

"Connect the Unconnected"

- Connect things and collect data
- Visualization

Condition Monitoring

- Anomaly Detection
- Defect Detection
- Compliance monitoring
- Digital twin

Operational Optimization

Optimize operation effectiveness/costs /health and asset performance:

- Worker safety
- Factory productivity

Predictive

Predicts outcomes/failures:

- Predict product quality, equipment maintenance, yield, cost

Real Time Prescriptive

Recommends corrections on low latency:

- deterministic control

Autonomous

Factory is self learning and adapting

SENSE

THINK

ACT

The IMEP Solution Development Strategy

Edge I/O Device

- *Remote I/O Devices with sensors*

2

OPC UA · PROFINET · EtherNet/IP · CC-Link IE · Modbus · CANopen · EtherCAT · IO-Link

Edge-to-Cloud Services

- *Integrated edge agent to cloud services*
- *Remotely mass deployment*

4

WISE-DeviceOn

Microsoft Azure

amazon web services

Control I/O & Sensors

- *Provided by iDOOR Technology*
- *New Tech. & Specific-domain application incubation*

1

Edge Software

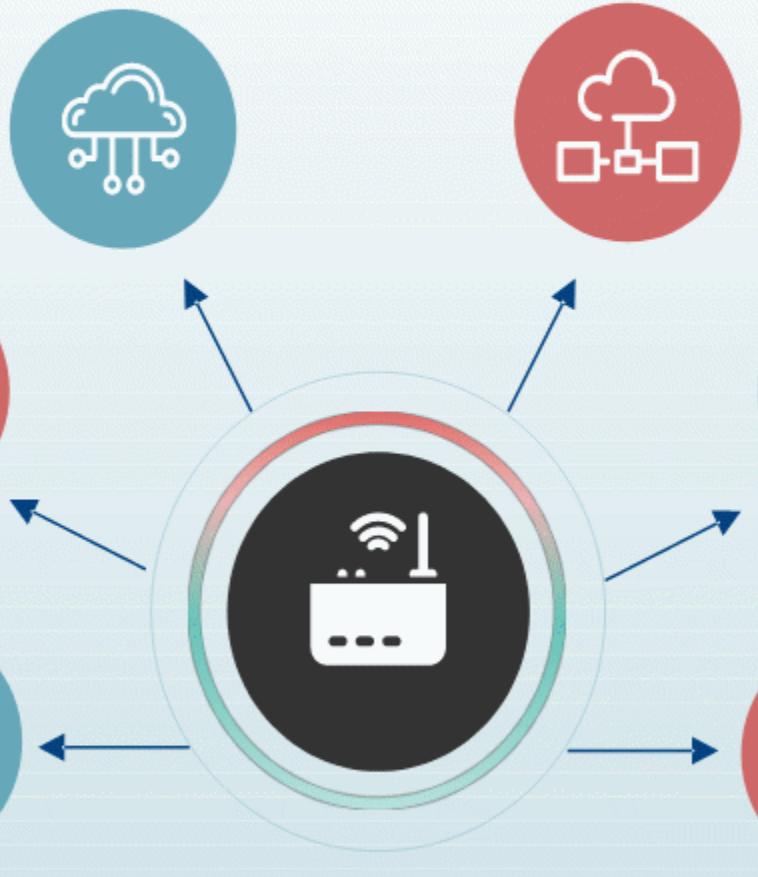
- *OT components connected with protocol convention software*
- *3rd party ISV partners collaboration & standardization*

3

WISE-EdgeLink

HMINavi WISE-PaaS/SCADA

The IMEP Intelligence Functionality



I.App Deployment

Zero-touch industrial Apps deployment by container technology

Device Connectivity

Integrated data bus with hundreds of PLC drivers support and protocol services eliminates the boundary between devices, servers and clouds

Plug & Play

Cloud-to-edge system integration with pre-configured Advantech I.Apps achieves the variety of application scenario

Data Security

Secure cloud communication and edge connectivity by cloud security SSL and onboard TPM 2.0

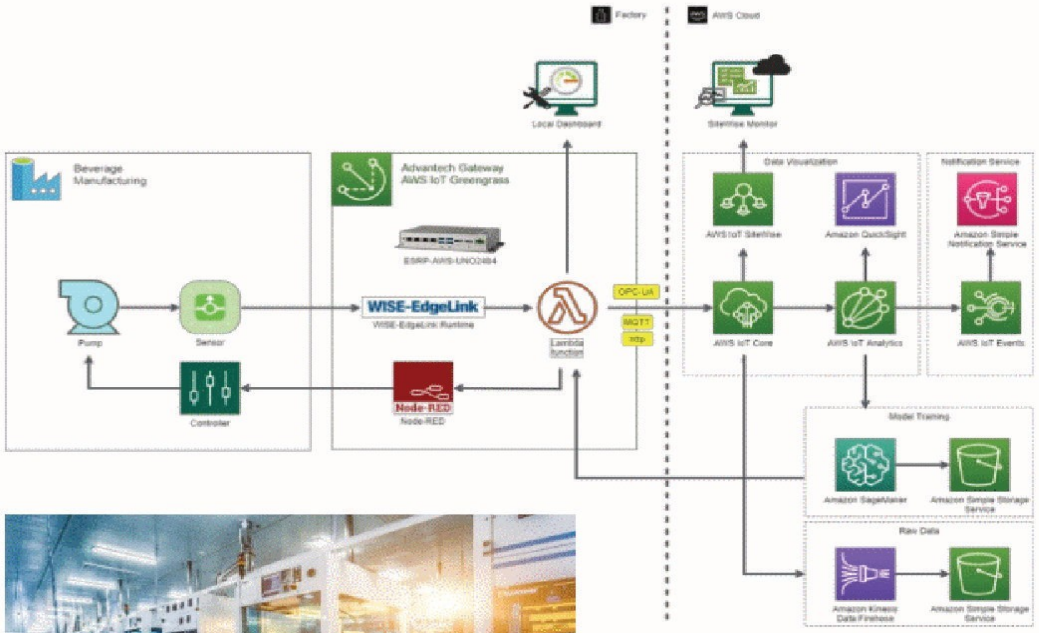
Remote Monitoring

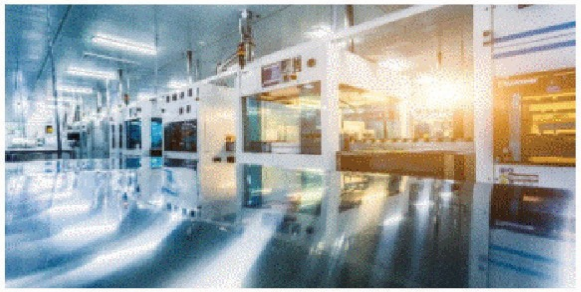
HTML5-based web dashboard to monitor system status remotelly

OTA Software Update

Grouping management and status tracking of Image, BIOS, firmware, driver and software remote update

Optimize Manufacturing with The IMEP





- **Problem**

  Food & beverage manufacturing process involves a complex series of sequential steps that can exacerbate quality problems. The ability to respond in real time to any issues that arise is required in order to prevent interruptions and ensure reliable operations.

- **Solution**

  The IMEP of the AWS series products were deployed to improve operations. WISE-Edgelink was used to collect data from numerous sensors. The data was then analyzed using an AWS IoT SageMaker AI model to determine suitable responses to real-time production line problems

- **Impact**

  Massive amounts and types of sensor data were collected by WISE-Edgelink and used for AI model training. AWS IoT SageMaker and SiteWise were used for equipment monitoring to achieve failure prediction and real-time management of all production processes.

DIGITAL TRANSFORMATION DRIVER

Developed specifically for SMEs to digitize manual, labor intensive operations. User Friendly & Easy to Learn

Free Unlimited Use
Next-gen SaaS Manufacturing Execution System (MES)

Real-time data

End-to-end visibility

Rapid deployment

Plug-and-play installation empowering production optimization from day 2

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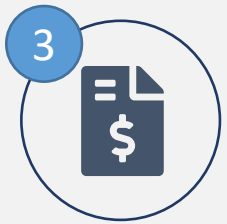
There are Six Parts to Digitizing Your Workflow with IMEP - MES Standard

Flow of information in arc.lite



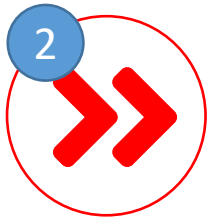
Create Order
Orders (sales) are entered into the system. Each order may have multiple jobs (also called work orders) attached to it

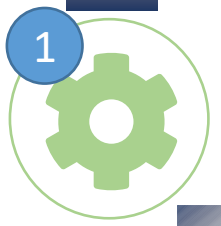
Schedule Order
Each job is scheduled. An order can be split into multiple jobs which may be independently scheduled

Complete Work
Jobs associated with
The order are executed using the workstation. Data including resources, personnel, assets, timings and customised checklists is recorded as work is completed

Analyse Data
Data collected from all completed jobs can be viewed and analysed through dashboards

Attach Workflows
Workflows specify how the work is done and the resources, assets, time and personnel that is required





Update Inventory & Data
Inventory is updated as work is completed. Other data such as available personnel and assets is saved here.

User Input

Each part may be accessed through the arc.lite (IMEP) home screen

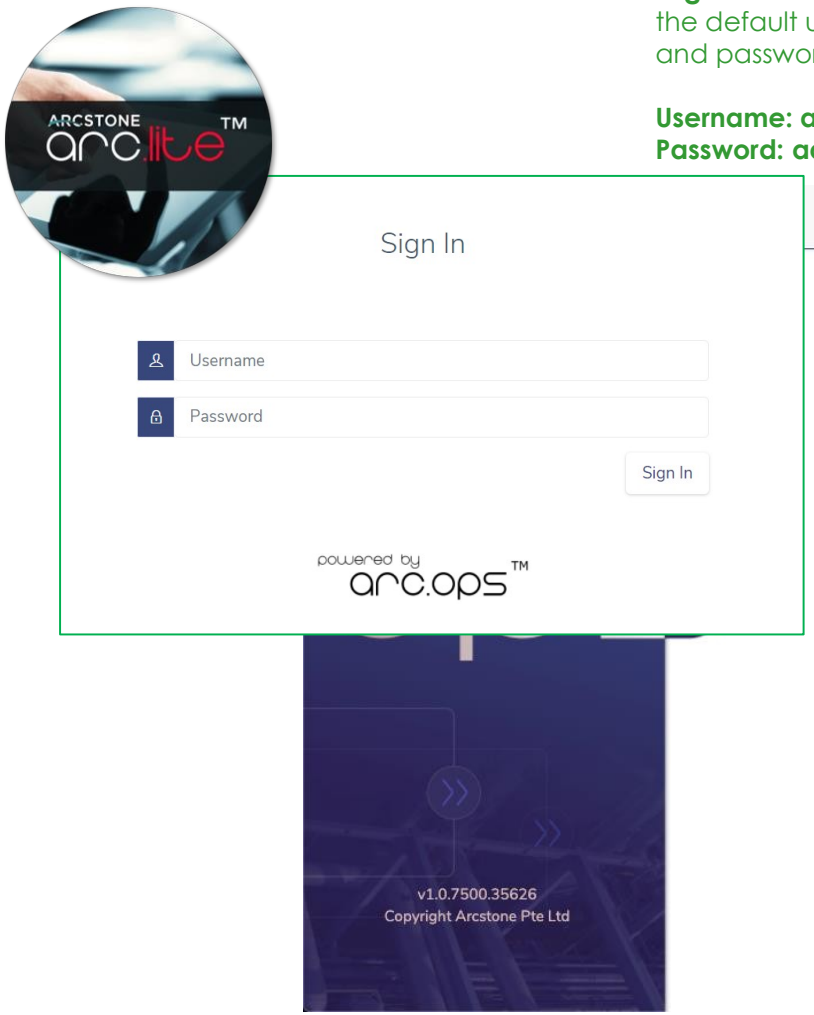
Overview of arc.lite login and home screens

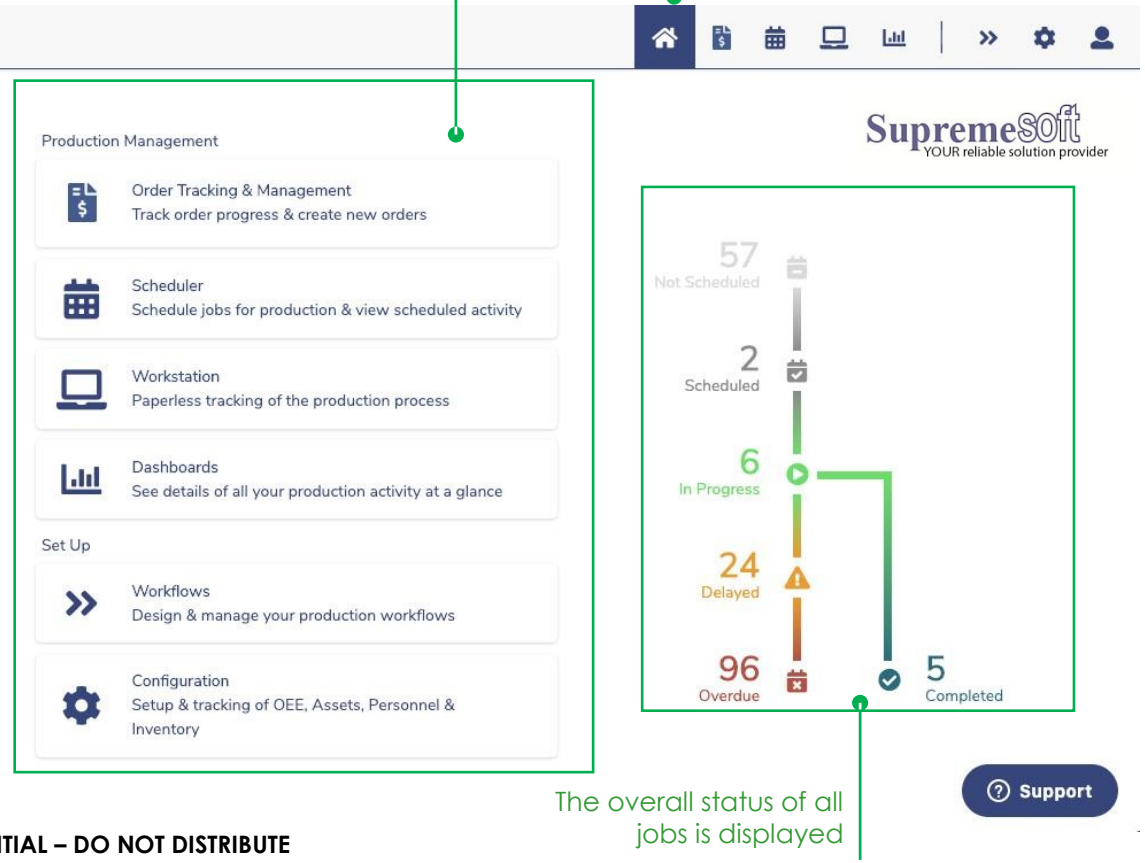
Login to arc.lite using the default username and password of:

Username: admin
Password: admin

Steps can be accessed through the quick links

The home page will load upon login. It can also be accessed at any time by clicking the home button





The overall status of all jobs is displayed

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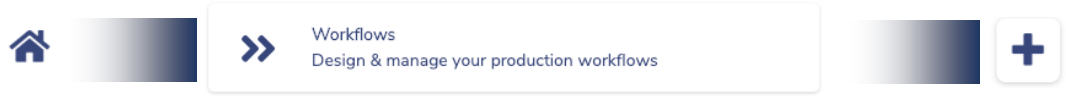
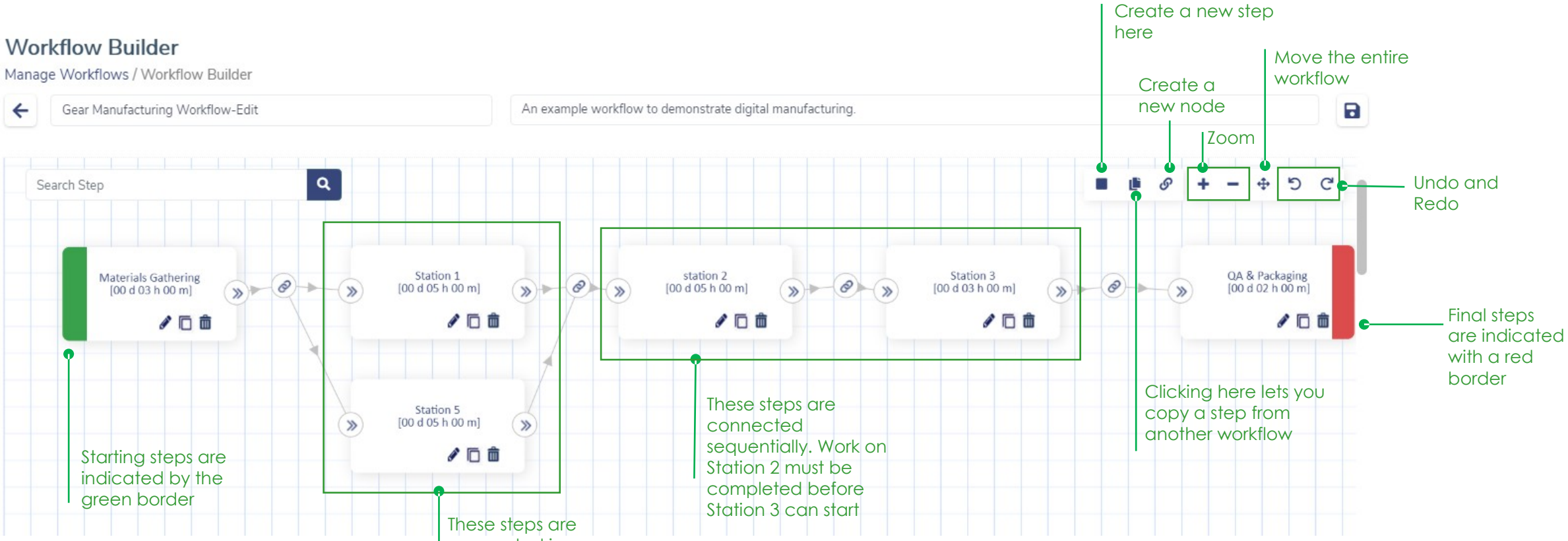
The workflow canvas

The below screen is accessed as follows:





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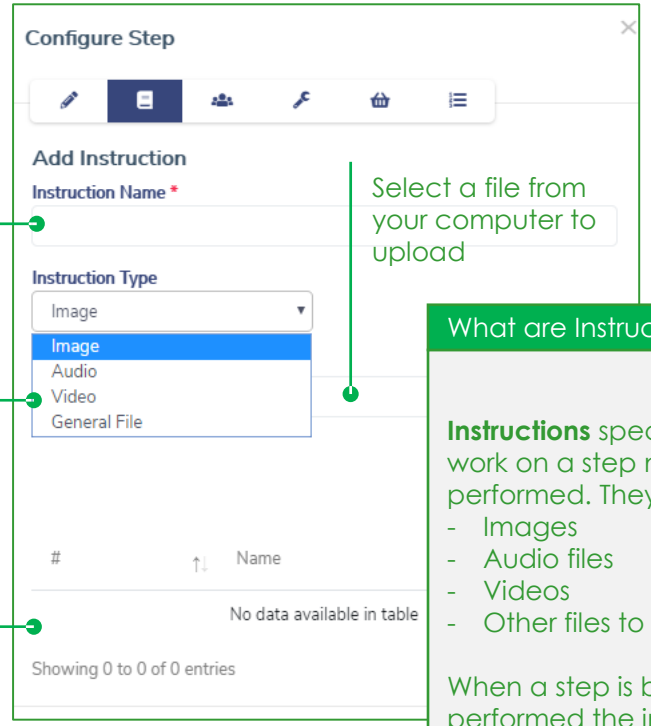
Instructions

The below screen is accessed as follows:



Specify an instruction name for your reference

Choose the type of instruction to upload

After pressing + to upload the files, they will be displayed here

Select a file from your computer to upload

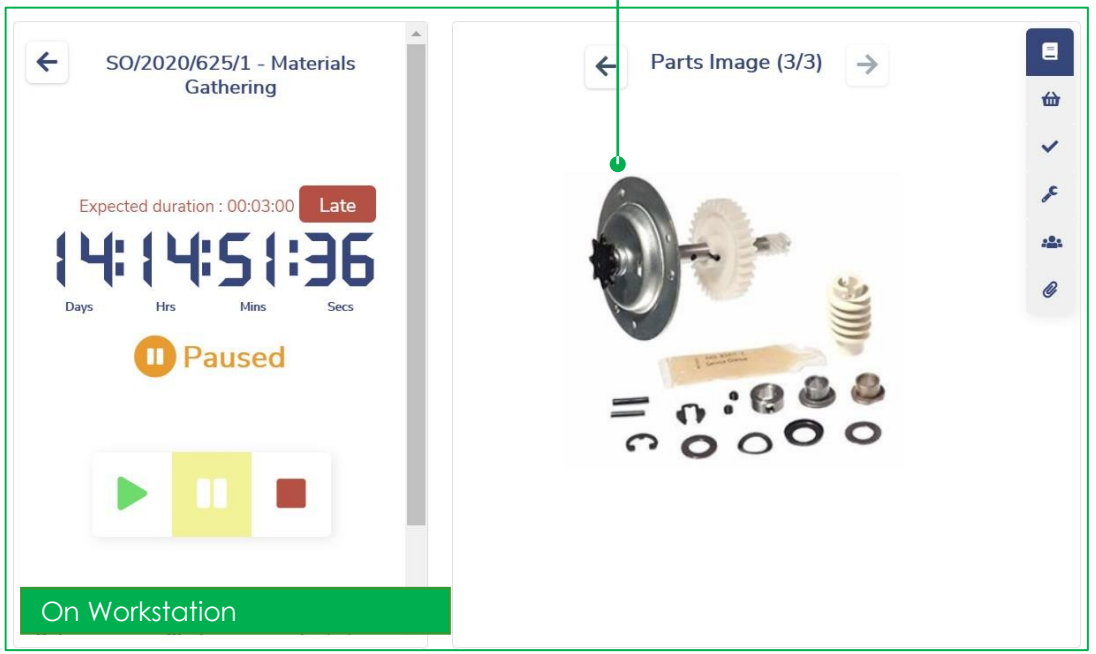
What are Instructions?

Instructions specify how the work on a step needs to be performed. They can be:

- Images
- Audio files
- Videos
- Other files to downloaded.

When a step is being performed the instructions uploaded here will be displayed

Instructions will displayed on the workstation, guiding the user through completing the step



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Custom configure dashboards with the dashboard designer add-on

Dashboards

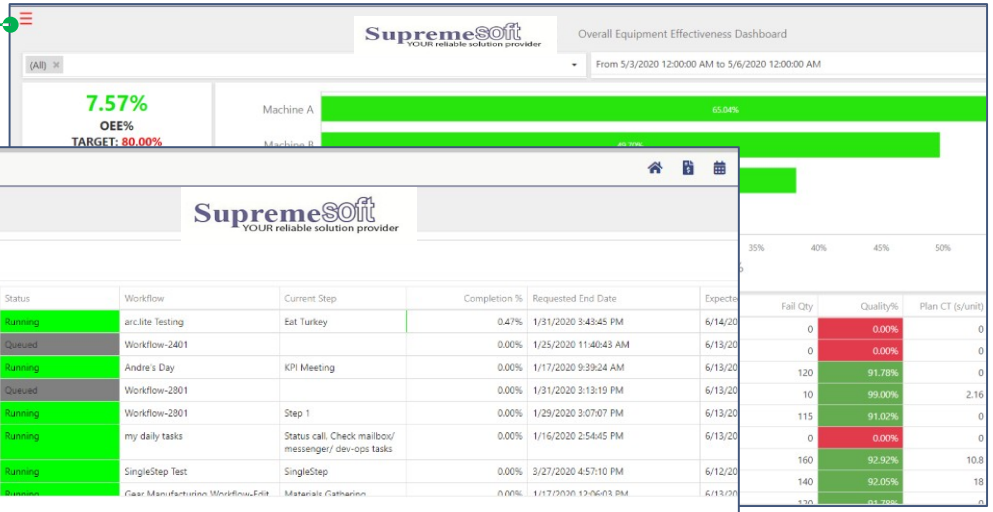
The below screen can be accessed as follows

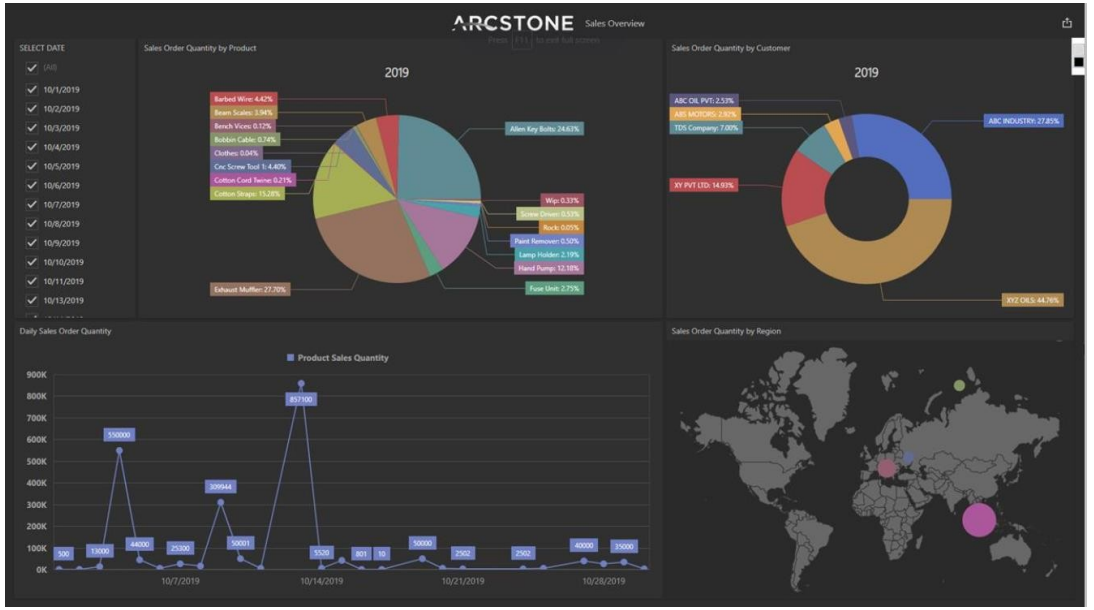
Dashboards
See details of all your production activity at a glance

Dashboards

Dashboards help visualize data collected to provide transparency on your operations. arc.lite ships with standard dashboards or dashboards can be customised with the dashboard designer add-on.

Swap between different standard views using this menu.





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KEY BENEFITS

END-TO-END VISIBILITY

of all manual production processes in real-time

1 DAY INSTALLATION

forge into Industry 4.0 at a speed with which the manufacturing landscape has never seen

FULL DIGITISATION

to eliminate inefficient paper-based workflows

COST REDUCTION

through the discovery and elimination of wasteful processes

REAL-TIME TRACEABILITY

to oversee facility operations in real-time globally

DATA SECURITY

through full ownership over onsite data or cloud instances

POWERED BY MES Stanadard IMEP

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Basic Toolset IMEP

arc.lite™ provides a powerful backbone to digitize your production end-to-end

Workflow Builder

Enables facility wide creation and management of workflows allowing for real-time monitoring of personnel, resources and equipment

Equipment Monitoring

Basic toolset for real-time equipment monitoring; Fully synced to workstation control and dashboard viewing for dashboard generation

Production Scheduler

Basic toolset for real-time scheduling, creation of work templates, generation of runs; Fully synced to personnel workstations

Personnel Management

Basic solution to track personnel in real-time; Fully synced to workstation control and dashboard viewing for dashboard generation

Workstation Control

Real-time workflow monitoring through any browser-based devices with full step timing, QC, resources, drawings and personnel tracking

Dashboard Viewing

Charting toolsets for basic and advanced visual dashboard viewing with fixed preset templates

Inventory Management

Tracks utilization of all raw materials throughout the entire production process from incoming inventory to WIP to finished goods

DIY or Supremesoft Support

Supremesoft's solutions installations are fully DIY or you could contact Supremesoft for installation and training support. Support packages can be purchased as required

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We digitally run factories

&

connect them across the entire supply chain

SupremeSoft
YOUR reliable solution provider

Our Experience Across Industries

Deployments in **8 countries**

8,000+ toolset users

>$750m of assets managed

Software deployed in **100+ sites**

Precision Engineering

Rolls-Royce, IRISO, Armstrong, OnnWah Precision Machining Pte Ltd, Alpha Industries Sdn Bhd, Nippon Seiki, Certact Engineering Excellence in Innovation, Dynapack Asia, G-Tekt Corporation, Magna, Sword Since Year 2000, PLC Industries, metalcool Pte Ltd

Fast-Moving Consumer Goods

Johnson & Johnson, Unilever, Freyabadi PT. Freyabadi Indotama, Heineken, Sari Roti Rotinya Indonesia, APB Singapore

Energy & Chemicals

ptt, Clariant, Avient, KPC Coal from Indonesia, PT Kaltim Prima Coal, TAI, Chemicals, Petrosea

Semiconductors & Electronics

Lumileds, Celestica, Lionsbot, Xacti

Industrial Automation

Omron, Rovisys Automation & Information Solutions, Sick Sensor Intelligence, Beckhoff, mosfet Automation is on your hand, Konica Minolta, Abrasive Engineering Pte Ltd, PT Kingkata Kharisma Artha, tuguss, Syntek Energy & Control, Cinovasi, DOA, Nismix

Universities & Associations

NUS National University of Singapore, Temasek Polytechnic, Food Innovation & Resource Centre Singapore Polytechnic, UPH Universitas Pelita Harapan, TUM Asia, Jababeka & Co. Creating New Cities, President University, Universitas Diponegoro

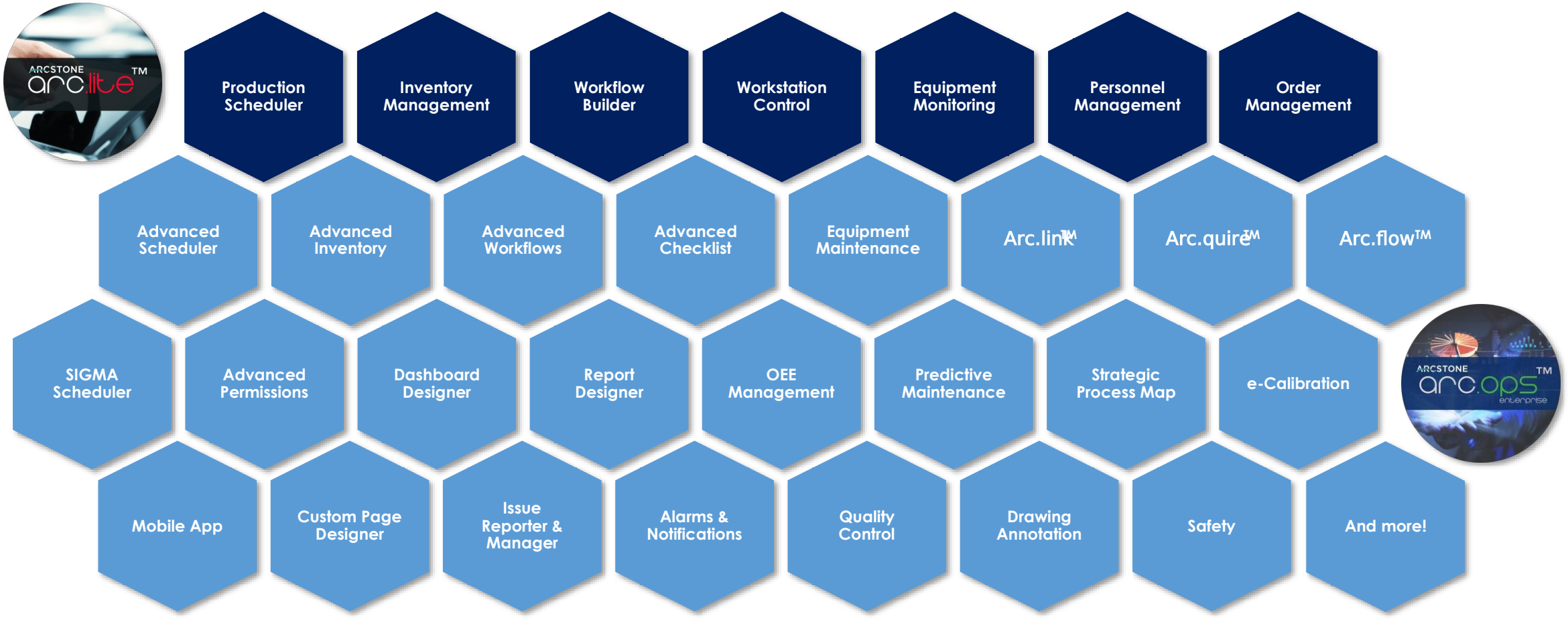
Biomedical & Pharma

Danaher, Sanofi, Sciex

Other

A*STAR Advanced Remanufacturing and Technology Centre, sepatu mas idaman, TiongSeng Group 长成控股, TruMarine, NIMA National Innovation Agency Malaysia, GRV

EXTENSIVE MODULE SERIES MES Standard and Advance



With Supremesoft's large array of MES modules, we give manufacturers a solution that is flexible and custom-fit for their businesses or operations. With this modularity, we help to build the best solution to optimize your processes.

Supremesoft
YOUR reliable solution provider

Join us at the Forefront of Industry 4.0

Supremesoft
YOUR reliable solution provider

Visit our Office Center

P3-3A, Shaftsbury Square, Persiaran Multimedia
63000 Cyberjaya, Selangor, Malaysia

Schedule for technical consulatation

We'll setup a POC remotely for your current projects

Contact Us

info@supremesoft.com.my

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