# Factory Doctor – iMachine/PHM Born For Equipment Maintenance

**Equipment Prognostic and Health Management** 

iMachine/PHM solution follows ISO 10816 standard



Benefits and values

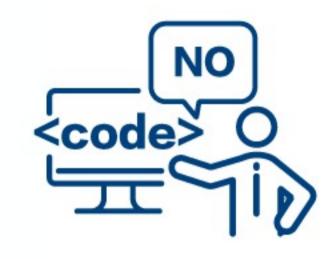
- The annual maintenance cost of the plant is greatly reduced
- The life cycle of the equipment is significantly extended
- The dilemma of human resource shortage is solved properly.



Resource Management



Al development service tools



No-code modeling tool

The accuracy rate of equipment diagnosis is capable to reach high accuracy by four stages deployments.

#### Stage 1

Machine anomaly detection

Al perform prognostic diagnosis, accurately arrange inspection manpower, and require no further inspections.

# Stage 3

Al triggers maintenance, reduces manpower of equipment management, and connects the operation and mainte-

nance dispatch system.

Machine maintenance integration

# Stage 2

Machine fault classification

change from passive to active, find out the root cause of the failure, greatly shorten the time and the cost of equipment repair.

# Stage 4

Machine life prediction

Predict the life (RUL) of components and maintenance schedule, and manage the equipment life-cycle more accurately and effectively.



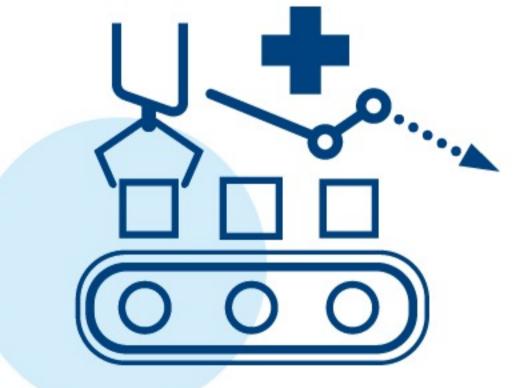
# 6 Featured Services







**Equipment** degradation detection



Equipment health prediction



multi-vibration point measurement management



Data collection and uploading to the cloud



data visualization

### Target Industries



Semiconductor factory



Chemical plant



Panel factory



PCB factory



**Automated Depot** 



**Smart Building/Park** 

#### iMachine/PHM: Machine healthy index Al: Detect and predict the next 7 day machine status **Model training** Al Model Data pre-processing Training data Feature value calculation Pre-trained Model Null data cleaning Healthy machine operation data Al Inference . Outlier cleaning \* No need for fault machine data 4. Data ordering Repeat data removing Inference data Al result **Machine Healthy Index** Al index: Degrading level ISO 10816 Vibration status Degrading level: Machine status compare to the healthy machine Type I: pumps > 15kW, radial, axial, Good mixed flow. Integrated driver. Type II: pumps > 15kW, radial, axial, Satisfactory mixed flow. External driver. High degrading level Type III: mediums sized machine **Jnsatisfactory** 15kW<P<300kW. Important machine Normal machine Critical machine Maintenance strategy: Type IV: large sized machine inspection inspection inspection Unacceptable 300kW<P<50mW ADVANTECH

Interest in our solution? Contact us anytime at WISE.iMachine@advantech.com Welcome to scan the QR code to explore the PHM website for more information

