

X-imaging iMagicOS Intelligent Magic Operation System



*Converging intelligence
surpassing imagination*

iMagicOS

Intelligent Magic Operation System

iMagicOS is an intelligent laboratory digital operational platform which is independently researched and developed by X-imaging Technology. It takes central integrated control unit and friendly human-machine interface. The system has the functions such as drive, dispatch, surveillance, traceability and management with high efficiency and high quality. It can be easily connected to instruments in laboratories for data collecting, data analysis of instruments or equipment. The system is flexible to linked with different kind of experiment scenarios such as life science, clinical diagnosis and chemical testing as well as the other management and control scenarios of hardware equipment. It can supply one stop and one integration experience. The system will contribute the construction of intelligent laboratories.

Can these experiments be done by robots? I need more time to analyze data or read essays and design experiments.

The customers always ask for automated laboratory solution, but I only have instruments. How should I involve automation business?

The experiment is added wrong reagent. The experiment has to be done again.

X-imaging *iMagicOS*

To open the gate of laboratory automation.

Experimental equipment
planning is full of experience.

Experiment program design
is simple and visual.

The operation of experiment
method is reliable and
high efficiency.

The data management and
storage are compliant and safe.

iMagicOS

will help you play with laboratory automation.

The experimental equipment planning, full experienced

The drive program bank of iMagicOS will be connected once plug with power.

It contains over 300 drives of instruments including function testing equipment such as microplate reader or cell imager, the fluid treatment equipment such as fluid workstation, nanoliter dispenser and assist instrument like cell incubator, centrifuge etc. gaseous phase, HPLC

Reliable technical strength, no worries for development of new drive

X-imaging can supply the automated interface development service of new instruments according to the requirements of customers. The drive program bank of iMagicOS supports the interface insert of new equipment drive.

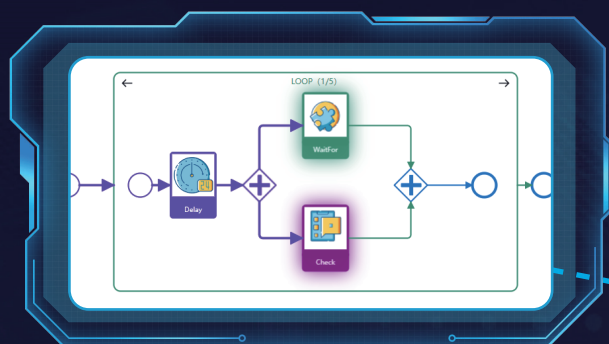
Roche Yourgene Health
Perkin Elmer Porvair Science
ThermoFisher AB SCIEX Inheco
Hamilton Cytena Biotek Iomics
Hettich Shimadzu
ABB ONLINE Agilent Beckman Coulter
MolecularDevices Tecan
Beckman Coulter Anjie

300+ Instruments and equipment

LC-MS ATC TripleQ 5500
LightCycler 480 Qsep400 EDX
LightBench Agilent5400 Echo 650
c.Wash Cellinsight CX7
Cytation5 Equipment EL406 Cytomat
SpectraMax ABI QuantStudio
TripleQ 6500 Xpeel HPLC
Rotanta460

Experimental program design, simple and visible

The experimental approaches development from process need to program method

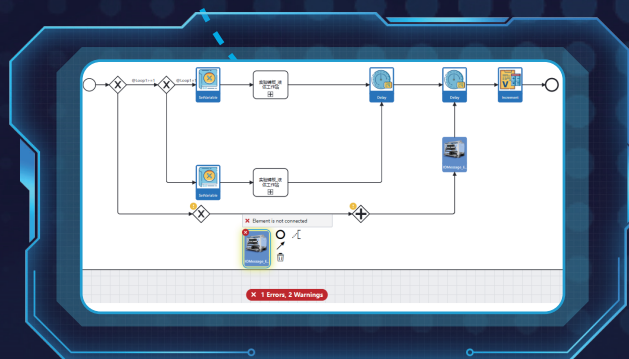


"Drag-and-drop" edit method

The experimental workflow will be defined quickly through drag-and-drop method. The instruments are selective and the parameters can be defined flexible.

Instruction toolkit

There are more than 10 control instructions, including looping, timing, judgment, parallelism, constraints etc. Operators can add these instructions to the experimental process by simply clicking and dragging. The complex or long experimental processes can be realized and rapidly edited.



"Automatic logical judgment"

The software can indicate logical errors during the process editing, and automatically provide the reasons and suggestions for the errors to ensure the normal operation of the process.

The operation of experimental methodology, reliable and efficient.

Simulation check before start



Simulation operation, estimation risks

The system can calculate the best resources combination to support the experimental simulation operation according to the throughput requirements and system equipment resources. The experiment time and risks can be estimated and the Gantt Chart will be generated and it's simple to understand.

The screenshot shows a reminder for checking status of equipment interface. It contains a table with columns for equipment ID, name, and status. The table lists several pieces of equipment, including 'A1-1000000000', 'A2-1000000000', 'A3-1000000000', 'A4-1000000000', 'A5-1000000000', 'A6-1000000000', 'A7-1000000000', 'A8-1000000000', 'A9-1000000000', and 'A10-1000000000'. The status column indicates 'ONLINE' for most equipment, with some showing 'OFFLINE'.

Reminder for checking status of equipment

The system will check the connection to the equipment and it will remind for those unconnected equipment. It supports the equipment operation of on-line or off-line to enhance the usage of equipment.

Intelligent scheduling during operating

Dynamic scheduling

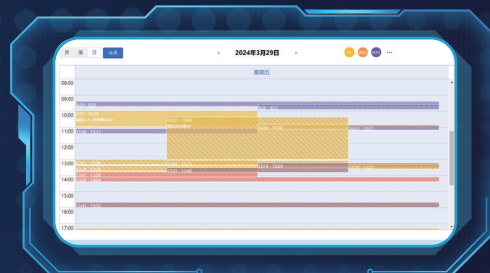
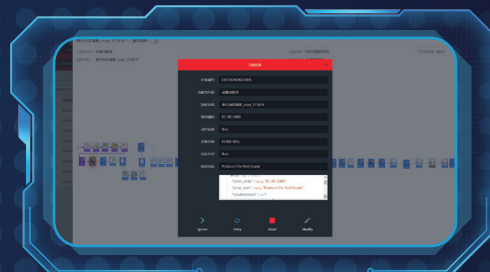
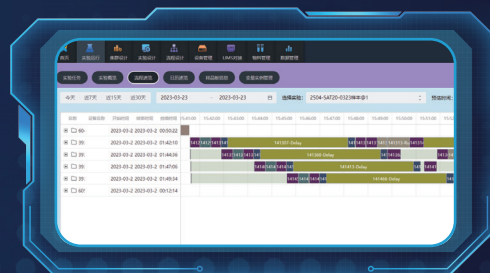
Multiple experimental tasks and schedule are clear and the AI algorithm empower the capability of equipment dynamic scheduling. The resources are allocated according to throughput requirement and equipment usage. The best parallel will be calculated and the operation efficiency will be enhanced.

Fault-tolerant treatment

4 errors treatment method is embedded and the experiments can be operated successively after the parameters are skipped, retried, terminated or modified. It supports the treatment process of customized errors. When some kind of errors happened, the process will be treated automatically for precious reagents and samples preservation.

Sequence appointment

The system supports new experiment appointment or insertion function. The appointment schedule can be viewed and it's clear to avoid the conflict.



Full process data analysis and management



Quick analysis

Data analysis <1S The response of equipment communication is millisecond. The feedback of experimental results is in-real time. The powerful data analysis engine of X-imaging can treat unformatted data and documents and will transform the formatted document which can be used and traced.

Compliance management

Data integrity: Comply with integrity and traceability of 21 CFR Part 11 guideline

Login traceability: The attempting login times will be controlled.

Electronic signature validation: The operator should supply the certificate and reason to modify the record.

Audit trail: The modification, preservation and replica alteration will generate electronic record.

Account permission: 4 levels permission control

LIMS connection: The system has standard API interface. The samples information deliver, experiments start or stop and data collection will be accomplished by interface call.



Secure storage

Private cloud architecture: The system data and experimental data will be saved into local sever.

Data backup: Double systems operation, 4 spaces storage, disaster backup and recovery are guaranteed. Rapid 1 backup is supported by master and slave system.

Data security: Huawei firewall can guarantee the system stable and data secure and it can isolate the invasion of different kind of Trojan horse or virus.

System security: Internet red lock protection, the system can be operated under a safe internet and environment. It can effectively eliminate the data leakage.

Low energy consumption and high reliability: The hardware configuration is military grade. The system security can be guaranteed.

iMagicOS Laboratory from automation to digitalization



- iMagicOS robot dispatching system
- iMagicOS equipment management system
- Laboratory environmental monitor control system
- CMS compound management system
- WMS reagent consumables samples management system
- iMagicOS cell maintenance system

The digitalization of laboratory management



The status monitor of laboratory instruments equipment



Statistics of experimental results



Analysis of result trends



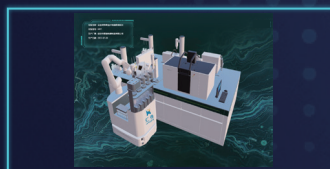
Statistics of finished experiments and planning experiments



Experimental queue monitoring



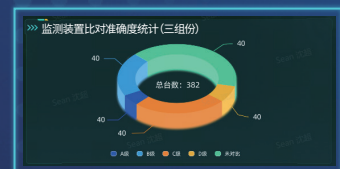
Environment control
Temperature, humidity, the concentration of combustible gas, pressure, airflow



3D function island model and simulation



In-real time video surveillance



Data display of LIMS system connection

iMagicOS

Laboratory from automation to digitalization



Voice interaction

Hello Xiang, please check whether the chloride test result of 5th sample is normal or not.

Hello, the chloride test result of 5th sample is normal and the value is 200mg/mL.



Knowledge maintenance

What are the test methods of COD in the standard 5750-2023 for daily drinking water?

There are several kind of test methods of COD in the standard 5750-2023 for daily drinking water. Potassium dichromate method is the most common test method of COD for different kind of waste water.

Platinum electrode method is suitable for test of waste water with high concentration of organic matter.

Oxygen electrode method is suitable for test of waste water with low concentration of organic matter.

Ultraviolet spectrophotometry is suitable for test of waste water with low concentration of organic matter.

Colorimetry is suitable for test of waste water with low concentration of organic matter.



Portable experiment

Xiang experiments: Your 10th sample is finished, it is operating 11st experiment

Xiang experiment: The equipment A is abnormal, please check it.



X-imaging is always your backup.



Fundamental training

Training for product and functional introduction

Training for real experimental scenarios of customers

Training for system maintenance



Advanced service

Java scripting training

Scripting service

Experimental flow service

GMP verification service

Cases



Oil and water intelligent laboratory

Insulating oil is a key substance to ensure the normal operation of high-voltage power equipment (such as capacitors, transformers, etc.), and plays the roles of arc extinguishing, insulation, and cooling. The detection of insulating oil is of far-reaching significance. The smart laboratory is built with X-imaging RoboSciX-20 AI robot scientist system as the core. It is equipped with a 7-axis sliding table robot, Huawei's Yiteng series dedicated intelligent computing platform, Huawei distributed data management system, X-imaging iMagicOS cloud Smart operating system. The automation system can integrate with gas chromatograph, acid value tester, trace moisture tester, dielectric strength tester, dielectric loss tester and other equipment, a series of solutions such as dissolved gas components, acidity, moisture content, dielectric strength, dielectric loss etc. The full-process automated testing of complex tests truly ensures that the samples to be tested come in and the test results are reported, which not only improves laboratory testing efficiency, but also minimizes the impact of manual intervention on test results.

Insilico Intelligent AI Drug R&D Laboratory

The automated laboratory covers an area of more than 1,000 m². The iMagicOS system is the core, it has realized laboratory automation of 8 automated functional islands, over 100 instruments and equipment. It can accomplish the preprocessing cell subculture, compound experimental processes such as high-throughput screening, cell staining and imaging, NGS library construction and sequencing of bloods, tissues, saliva and other samples.

It can minimize the manual steps required to complete experiments and it will reduce the risk of sample processing errors. The consistency and reliability of experiments will be improved. It can acquire higher efficiency of R&D process.



Intelligent Science, Selecting X-imaging

**X-imaging Intelligence
Technology (Shanghai) Co., Ltd.**

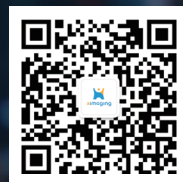
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Official Account



Wechat Video



Website



Technical Support