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**AHNO 阿诺**  
Cutting Tool Technology



**AHNO 阿诺**  
Cutting Tool Technology

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**苏州阿诺精密切削技术有限公司**  
 Suzhou Ahno Precision Cutting Tool Technology Co., Ltd.

## 公司简介 / COMPANY PROFILE

苏州阿诺精密切削技术有限公司成立于 2002 年，由海归博士柯亚仕创立，经过 20 多年的发展，已经成长为中国金属切削刀具领域最具影响力的企业之一，2024 年阿诺正式加入山特维克集团，集团拥有 1300 多名员工，6 家刀具工厂，23 家连锁修磨和涂层服务中心。

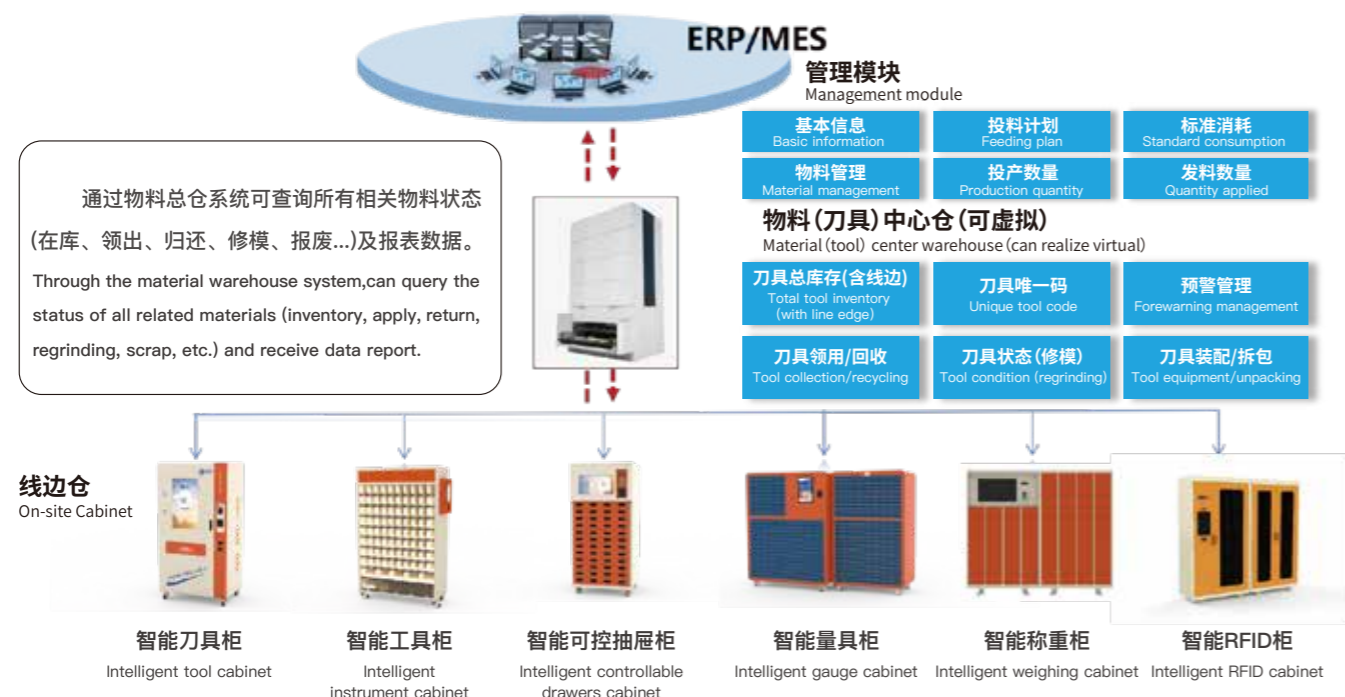
阿诺数字化专注刀具现场和仓储一体化管理，拥有高效专业的软硬件开发和售前售后技术支持团队，本着“质量就是生命”的理念，在航空航天、机械加工、医疗器械、电子仪表等各种领域，提供高品质的智能仓储产品和智能制造系列整体解决方案。

Suzhou AHNO Precision Cutting Technology Co., Ltd. was founded in 2002 by overseas returnee Dr. Yashi Ke. After more than 20 years of development, it has grown into one of the most influential enterprises in the field of metal cutting tools in China, AHNO officially joined the Sandvik Group in 2024, with more than 1300 employees, 6 tool factories, and 23 chain regrinding and coating service centers.

AHNO focuses on the overall management of tools on-site and warehousing, with efficient and professional teams in software and hardware development, and pre-sale and after-sale technical support. In line with the concept of “quality is life”, we provide high-quality intelligent warehousing products and overall solutions in various fields such as aerospace, machining, medical device, electronic instruments, etc.

## 智能刀具管理系统--整体架构

Intelligent Tool Management System--Overall Architecture



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Customer Case

7.00版

# 01

## 线边刀具管理 Tool Management

### 管理痛点/难点

Management pain points / difficulties

- |   |  |
|---|--|
| 1、刀具领用耗时长、手续繁琐<br>It takes too long to get the cutting tool                   | 2、刀具领用后不知所踪<br>Easily missing in use   |
| 3、以旧换新执行不彻底<br>Return old for new one cannot been done thoroughly             | 4、刀具使用追溯困难<br>Too difficult for traceability when using cutting tool         |
| 5、库存无法实时监管及预警<br>Cannot monitor and warning when storage low                  | 6、夜班需提前领料或人员值守<br>Stand by for 24H or receive in advance for the night shift |
| 7、报表统计不准,单据处理繁琐<br>Difficult for statistics and tedious for handling receipts | 8、使用成本过高,核算困难等<br>High cost and difficult for accounting                     |



### 智能刀具柜的优势

Advantages of Intelligent Tool Cabinet



## 系统功能 / System Function

- 无人值守**  
Unattended  
24小时无人值守, 自助领料还料, 操作信息详细记录可追溯, 物流和信息流实时一致。  
No one stand by for 24h and self-service. Information flow and logistics are generated at the same time
- 多元登录**  
Multi-Login  
账号密码、刷卡、人脸识别, 权责明确。  
Multi-login including password, card and face identification
- 快捷领取**  
Quick collection  
一键领用, 快达10秒, 批量购物车领取。  
Receive through shopping cart quickly
- 限权管理**  
Authority management  
管理员和员工不同权限, 按需领取, 可限制领取和未归还数量上限, 避免浪费。  
Receive based on management privileges and limit quantities to avoid waste
- 归还审核**  
Return review  
分类回收, 后台审核, 以旧换新, 快速凸显异常操作。  
Return old for new and intelligent picking, highlight abnormal operations
- 库存预警**  
Automatic warning  
设定安全库存, 界面颜色提醒, 邮件预警。  
Automatic warning and purchasing notice by setting safety stock and email
- 虚拟仓配置**  
Virtual warehouse settings  
大物料和不常用物料, 可一并管控。  
Large materials and infrequent materials can be controlled together



## 系统功能 / System Function

- 系统接入**  
System access customized  
定制化需求, 对接ERP、MES、WMS等客户系统, 数据互通。  
Customization requirements easy connection with ERP/MES/WMS and etc
- 模块结构**  
Modular design  
流线型设计, 鲜亮的色彩搭配, 提升企业车间形象, 对柜机容量和配置可无限扩展。  
Streamlined design, bright color matching, promote the image of enterprise workshop, and expand the capacity and configuration of cabinet machine infinitely
- 智能报表**  
Intelligent reports  
自动实时生成领用、未归还、库存、物料上下架等数据记录和统计分析报告, 实时查看。  
Automatically generate data records and statistical analysis reports such as collection, un-returned, inventory, loading and unloading of tools, and view them in real time
- 成本清晰**  
Clear cost  
各成本中心消耗实时展现, 为整个工厂决策提供依据。  
The consumption of each cost center is displayed in real time, which provides the basis for the decision of the whole factory



数据报表  
Data reports



可视化图表  
Visual chart



# 02

## 工装量具管理 Tool Management

### 管理痛点/难点

Management pain points / difficulties

- 1、工具使用频繁, 紧急情况找不到需要的工具  
Tools are used frequently, and the required tools cannot be found in emergency
- 2、员工存取工具时很难认真记录, 难以追踪  
It is difficult for employees to carefully record and track when accessing tools
- 3、量具需定期校准, 因数量较多, 容易造成超时漏检  
The measuring tools need to be calibrated regularly. Due to the large number, it is easy to cause overtime and missed inspection

### 解决方案

Solution

- 1、存取时责任到人, 并实时显示前一使用者和使用轨迹  
When accessing, the responsibility is assigned to the person, and the previous user and usage track are displayed in real time
- 2、检验到期提前预警, 后台可一键校验  
Early warning of inspection expiration. One click verification is available in the background
- 3、多种柜体搭配组合, 灵活存储  
Multiple cabinet combinations for flexible storage



### 系统功能 / System Function

无人值守 Unattended	24小时无人值守, 自助领料还料, 操作信息详细记录可追溯 No one stand by for 24h and self-service. Information flow and logistics are generated at the same time
多元登录 Multi-login	账号密码、刷卡、人脸识别, 责任到人 Multi-login including password, card and face identification
物料追溯 Traceability	实时显示前一使用者, 权责到人 Trace the tools and the users
定期校验 Periodic verification	显示当前状态, 提前检验预警 Display current status, early inspection alert
智能报表 Intelligent report	展示所有物料使用轨迹, 频次和当前状态 Show the track, frequency and current status of all materials
格口定制 Customized notch	抽屉格口大小可以根据客户物料尺寸定制, 多种规格任意拼装 Drawer compartment size can be customized according to customer's material size, specifications can be assembled at will



# 03

## 刀具室管理 Tool Room Management

### 管理痛点/难点

#### Management pain points / difficulties

- 1、刀具发放耗时长,种类繁多,查找不易**  
It takes a long time to distribute tools, and there are many kinds of tools, so it is difficult to find them
- 2、零星频繁领取、增加仓库人员工作量**  
Sporadic and frequent collection, increasing the workload of warehouse personnel
- 3、单据处理繁琐,报表录入工作量大,容易账实不符**  
The document processing is cumbersome, the report workload is heavy, and it is easy for the accounts to be inconsistent with the facts

### 解决方案

#### Solution

- 1、可全程无纸化作业,系统报表自动生成,缺料自动预警**  
Paperless operation throughout the whole process, automatic generation of system reports and automatic warning of material shortage
- 2、节省人工找料时间成本,操作简单便捷,无障碍上手**  
It saves the time and cost of manual material finding, and the operation is simple, convenient and accessible
- 3、智能化的管理模式,即提高企业的自身形象,又节省人员成本,提高工作效率**  
The intelligent management mode not only improves the self-image of the enterprise, but also saves personnel costs and improves work efficiency



### 系统功能 / System Function

<b>无人值守</b> Unattended	24小时无人值守,自助领料还料,操作信息详细记录可追溯,物流和信息流实时一致 No one stand by for 24h and self-service information flow and logistics are generated at the same time
<b>多元登录</b> Multi-login	账号密码、刷卡、人脸识别,锁定责任人 Multi-login including password, card and face identification
<b>智能报表</b> Intelligent report	自动生成领用、未归还、库存、物料上下架等数据,统计分析,实时查看 Automatically generate data records and statistical analysis reports such as collection, un-returned, inventory, loading and unloading of tools, and view them in real time
<b>限权限额</b> Limit permissions and quantities	管理员和员工不同权限,按需领取,可限制领取和未归还数量上限,避免浪费 Receive based on management privileges and limit quantities to avoid waste
<b>系统接入</b> System access customized	定制化需求,对接ERP,MES,WMS等客户系统,数据互通 Customization requirements, easy connection with ERP/MES/WMS, etc
<b>归还审核</b> Return review	分类回收,后台审核,以旧换新,快速凸显异常操作 Return old for new and intelligent picking, highlight abnormal operations
<b>库存预警</b> Automatic warning	设定安全库存,界面颜色提醒,邮件预警 Automatic warning and purchasing notice by setting safety stock and email
<b>数量管控</b> Quantity control	格口出料数量可控,避免超限拿取 The quantity can be controlled, so as to avoid over-limit taking
<b>格口定制</b> Customized notch	抽屉格口大小可以根据客户物料尺寸定制,多种规格任意拼装 Drawer compartment size can be customized according to customer's needs and various specifications can be assembled arbitrarily



# 04

## 仓库管理 Warehouse Management

### 管理痛点/难点

#### Management pain points / difficulties

- 1、空间有限  
Limited space
- 2、查找困难  
Difficulty to find
- 3、搬进搬出,费时费力  
Moving in and out is time-consuming and laborious
- 4、盘点耗时  
Counting time

### 解决方案

#### Solution

#### 立体货柜 Vertical container

#### 管理方式/管理效益:

##### Management mode / management benefit

- 1、现有仓库改造成立体仓库  
The existing warehouse is transformed into vertical container
- 2、可系统对接ERP、MES等系统  
It can connect ERP, MES and other systems
- 3、扫描工单,系统自动出料、扣账  
Scan the work order, and the system will automatically issue materials and deduct accounts

#### 立体仓库 Automatic stereoscopic

#### 管理方式/管理效益:

##### Management mode / management benefit

- 1、定制化立体仓库,管理仓库所有物料  
Customized automatic stereoscopic, manage all materials in the warehouse
- 2、根据现场尺寸和承重要求,量身定制  
According to the site size and load-bearing requirements, tailored
- 3、空间高度4M以上,使用性价比更高  
The space height is more than 4m, which is more cost-effective

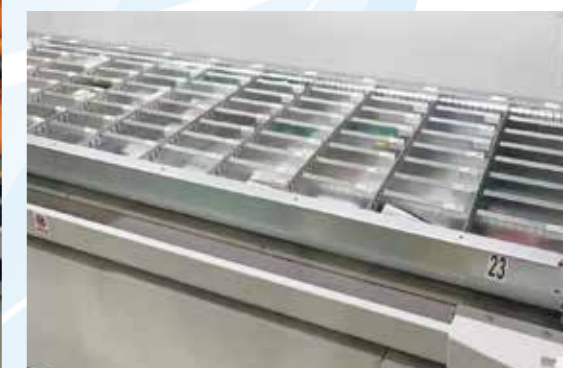
### 产品特点 / Product Features

- 1 充分利用垂直方向空间、节省地面面积、洁净、安全、可靠、高效  
Make full use of vertical space, save floor area, be clean, safe, reliable and efficient
- 2 存取能力最大  
可达 120个托盘/小时  
The access capacity can be up to 120 trays/hour
- 3 托盘间距可调  
预塑化面板  
Preplasticized panel  
Tray spacing is adjustable
- 4 V形钢丝皮带  
自支撑钢结构  
V-shaped steel belt  
Self-supporting steel structure
- 5 友好的用户界面  
触摸屏操作控制台  
Touch screen operation console  
Friendly user interface
- 6 数据库自动维护,高级数据库备份管理,可实现完整备份或增量备份  
Automatic database maintenance, advanced database backup management, full backup or incremental backup can be realized

### 适用场景 / Applicable Scenarios

- 1 地面面积小,高度高的场地  
Site with small ground area and high height
- 2 洁净度要求高的环境  
Environment with high cleanliness requirements
- 3 快速,高流量要求  
Fast, high flow requirements
- 4 存储要求防尘、防潮  
The storage shall be dust-proof and moisture-proof
- 5 不限行业  
Unlimited industry

### 案例 / Customer Cases



### 系统功能 / System Function

- |   |                                   |                                       |
|---|-----------------------------------|---------------------------------------|
| <b>1</b> 指令管理<br>Instruction management | <b>2</b> 作业调度<br>Job scheduling   | <b>3</b> 实时监控<br>Real time monitoring |
| <b>4</b> 数据采集<br>Data collection        | <b>5</b> 故障报警<br>Fault alarm      | <b>6</b> 运行日志<br>Operation log        |
| <b>7</b> 异常处理<br>Exception handling     | <b>8</b> 用户权限<br>User permissions | <b>9</b> 客户定制化<br>Customization       |

### 产品特色 / Product Features

- |  |  |
|--|--|
| <b>1</b> 轻型堆垛机, 重量轻、产品适用行业广, 水平运行速度最高可达到360m/min<br>Light stacker crane, light weight, wide range of products, the horizontal operating speed can reach up to 360m/min | <b>2</b> 高度范围:2.5-13m<br>Height range: 2.5-13m   |
| <b>3</b> 模块化设计, 总重量轻, 噪音低, 震动小, 低扭转, 集成导轨<br>Modular design, total weight, low noise, low vibration, low torsion, integrated rail                                      | <b>4</b> 结构简洁美观, 使用简便, 维护方便。适用于高流量要求场合<br>The structure is simple and beautiful, easy to use and easy to maintain. Suitable for high flow requirements |

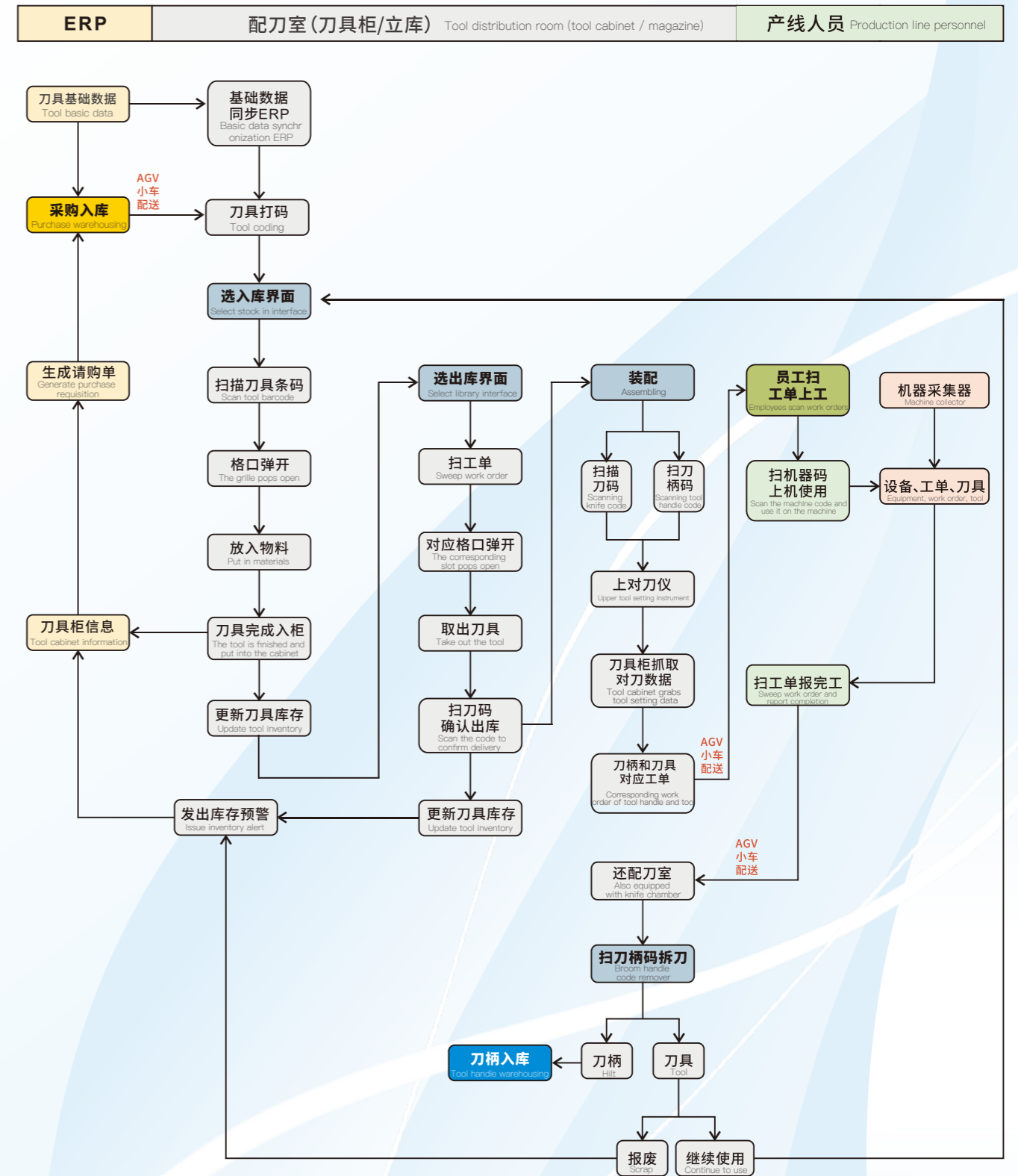
### 适用场景 / Applicable Scenarios

- |   |  |
|---|--|
| <b>1</b> 轻载, 小尺寸的货物<br>Light load, small size cargo | <b>2</b> 洁净度要求高的环境<br>Environments with high cleanliness requirements  |
| <b>3</b> 快速, 高流量要求<br>Fast, high flow requirements  | <b>4</b> 地面承载小, 高度低的场合, 可适应于多层厂房楼面使用<br>The ground bearing is small, the height is low, and it can be adapted to the use of multi-storey factory floor |

### 案例 / Customer Cases



# 刀具全寿命周期管理流程 Tool Life Cycle Management Process





▲ 标准版智能刀具柜  
Standard Edition Intelligent Tool Cabinet



▲ 新零售智能刀具柜  
New Retail Intelligent Tool Cabinet

### 基本参数 / Basic Parameter

型号: AHNO-TB-B2-Z90  
Type No: AHNO-TB-B2-Z90

颜色: 米色/橘色 (可定制)  
Color: Beige/Orange(Customizable)

电源: AC 220V  
Power: AC 220V

功率: 200W  
Power: 200W

重量: 400kg  
Weight: 400kg

服务器: GK7000 i7-10510U 16G内存 128G+32G固态硬盘 带 WiFi  
Server: GK7000 i7-10510U, 16GB memory, 128G+32G solid-state, with WiFi

物料参考尺寸: 最大尺寸-长:140mm 宽:60mm 厚:15mm  
Package size: maximum size - length: 140mm width: 60mm thickness: 15mm

显示器: 32寸触摸屏  
Screen size: 32 inch touch screen

外观尺寸: 1070\*804\*2012mm  
Dimensions: 1070\*804\*2012mm

物料数量: 90MAX 108\*20= 2160 件  
Tool quantity: 90MAX 108\*20= 2160 pieces

管理品种: 90/108 品种(varieties)  
Management variety: 90/108 varieties

回收仓尺寸: 内径ID:498\*128\*430mm  
Return port size 外径OD:502\*132\*430mm

### 基本参数 / Basic Parameter

型号: AHNO-TB-E3-Z80  
Type No: AHNO-TB-E3-Z80

颜色: 米白/橘色  
Color: Beige / Orange

电源: AC 220V  
Power: AC 220V

功率: 100W  
Power: 100W

重量: 380kg  
Weight: 380kg

服务器: GK7000 i5-8250U 16G内存 128G+32G固态硬盘 带 WiFi  
Server: GK7000 i5-8250U, 16GB memory, 128G+32G solid-state, with WiFi

物料参考尺寸: 最大尺寸-长:140mm 宽:60mm 厚:15mm  
Package size: maximum size length: 140mm width: 60mm thickness: 15mm

显示器: 15.6寸触摸屏  
Screen size: 15.6 Inch Touch Screen

外观尺寸: 1070\*794\*1900mm  
Dimensions: 1070\*794\*1900mm

管理品种: 8\*10=80 品种  
Management variety: 8\*10 =80 varieties

物料数量: MAX 80\*16=1280件  
Tool quantity: Max 80\*16= 1280 pieces

回收仓尺寸: 138\*498\*425mm  
Recovery bin size: 138\*498\*425mm

回收口尺寸: 70\*40mm  
Return port size: 70\*40mm



▲ 智能可控抽屉柜  
Intelligent Controllable Drawer Cabinet

基本参数 / Basic Parameter

型号: AHNO-TB-K-Z60  
Type No: AHNO-TB-K-Z60

颜色: 米色/橘色 (可定制)  
Color: Beige/Orange(Customizable)

电源: AC 220V  
Power: AC 220V

功率: 100W  
Power: 100W

重量: 480kg  
Weight: 480kg

显示器: 21.5寸触摸屏  
Screen size: 21.5 inch touch screen

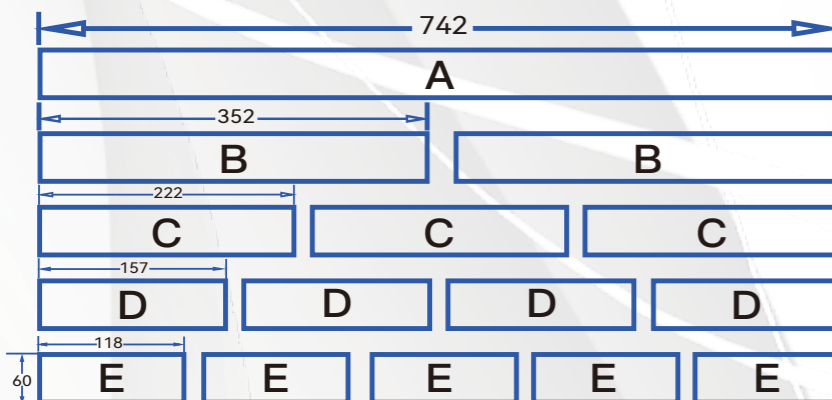
外观尺寸: 主柜尺寸: 866\*760\*1858mm  
副柜尺寸: 866\*760\*1858mm

Dimensions: Main cabinet size: 866\*760\*1858mm  
Auxiliary cabinet size: 866\*760\*1858mm

管理品种: 主柜:60(5\*12) 副柜:75(5\*15)  
Management variety: Main cabinet: 60(5\*12) Deputy cabinet: 75(5\*15)

服务器: GK7000 i7-10510U 16G内存 120G+32G固态硬盘 带 WiFi  
Server: GK7000 i7-10510U, 16GB memory, 120G+32G solid-state, with WiFi

常用格口尺寸: E:118\*58\*28mm D:157\*58\*28 C:222\*58\*28 (分格间距28)  
Package size: E:118\*58\*28mm D:157\*58\*28 C:222\*58\*28 (frame spacing 28)



单位:mm



▲ 智能灯锁柜  
Intelligent Light Lock Cabinet

基本参数 / Basic Parameter

型号: AHNO-TB-F-Z15  
Type No: AHNO-TB-F-Z16

颜色: 橙红  
Color: Orange red

功率: 200W  
Power: 200W

电源: AC220V  
Power: AC220V

重量: 主柜: 363kg  
副柜: 350kg  
Weight: Main cabinet: 363kg  
Auxiliary cabinet: 350kg

显示器: 21.5寸触摸屏  
Screen size: 21.5 inch touch screen

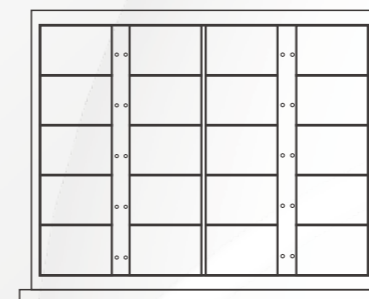
外观尺寸: 主柜尺寸: 737\*730\*1720mm  
副柜尺寸: 737\*730\*1720mm

Dimensions: Main cabinet size: 737\*730\*1720mm  
Dimension of auxiliary cabinet: 737\*730\*1720mm

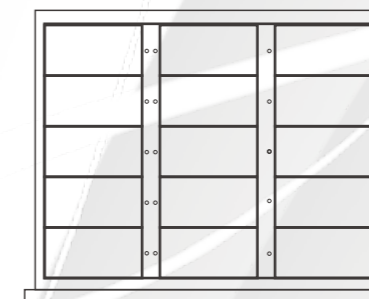
服务器: GK7000 i7-10510U 16G内存 128G+32G固态硬盘 带 WiFi  
Server: GK7000 i7-10510U, 16GB memory, 128G+32G solid-state, with WiFi

格口尺寸: 130\*88\*70mm (一层20格口)  
(可选格口尺寸) 180\*88\*70mm (一层15格口)  
280\*88\*70mm (一层10格口)

Lattice size: 130\*88\*70mm (A floor of 20 openings)  
(Optional cell size) 180\*88\*70mm (A floor of 15 openings)  
280\*88\*70mm (A floor of 10 openings)



20格口  
20 lattice



15格口  
15 lattice



10格口  
10 lattice



▲ 智能暂存回收柜

Intelligent Temporary Storage Recycling Cabinet

### 基本参数 / Basic Parameter

型号: AHNO-TB-ZI-Z100  
Type No: AHNO-TB-ZI-Z100

颜色: 橘色  
Color: Orange

电源: AC 220V  
Power: AC 220V

功率: 50W  
Power: 50W

重量: 约100kg  
Weight: about 100kg

显示器: 无  
Screen size: without

外观尺寸: 545\*484\*1590mm  
Dimensions: 545\*484\*1590mm

管理品种: 100  
Management variety: 100

回收仓尺寸: 400\*295\*190 mm  
Size of recycling bin: 400\*295\*190 mm

回收方式: 翻转扫描回收  
Recycling method: flip scanning recycling



▲ 智能回收柜

Intelligent Recycling Cabinet

### 基本参数 / Basic Parameter

型号: AHNO-TB-HS001  
Type No: AHNO-TB-HS001

颜色: 橘色  
Color: Orange

重量: 50kg  
Weight: 50kg

外观尺寸: 600\*450\*788mm  
Dimensions: 600\*450\*788mm

回收仓尺寸: 225\*345\*375mm  
Recycling bin size: 225\*345\*375mm

回收口尺寸: 80\*40  
Return port size: 80\*40

回收方式: 手动分类回收  
Recycling bin size: Manual sorting and recycling

型号: AHNO-TB-HS002  
Type No: AHNO-TB-HS002

颜色: 橘色  
Color: Orange

重量: 50kg  
Weight: 50kg

外观尺寸: 600\*450\*788mm  
Dimensions: 600\*450\*788mm

回收仓尺寸: 237\*347\*345mm (2个)  
Recycling bin size: 237\*347\*345mm(2 pieces)

回收方式: 翻转扫描回收/红外感应回收  
Recycling bin size: Flip scan recovery/Infrared induction recovery

回收最大物料尺寸: 80\*30\*180  
Maximum material size to be recovered: 80\*30\*180



▲ 智能抽屉柜  
Intelligent Chest of Drawers

### 基本参数 / Basic Parameter

型号: AHNO-TB-CT-Z200  
Type No: AHNO-TB-CT-Z200

颜色: 橘色  
Color: Orange

电源: AC 220V  
Power: AC 220V

功率: 100W  
Power: 100W

重量: 主柜约145kg  
副柜约125kg

Weight: Main cabinet: 145kg  
Auxiliary cabinet: 125kg

显示器: 15.6寸触摸屏  
Screen size: 15.6 inch touch screen

外观尺寸: 主柜尺寸:1158\*500\*1650mm  
副柜尺寸:942\*500\*1650mm

Dimensions: Main cabinet size: 1158\*500\*1650mm  
Sub cabinet size: 942\*500\*1650mm

管理品种: 200  
Management variety: 200

服务器: GK7000 i7-10510U 16G内存 128G+32G固态硬盘 带 WiFi  
Server: GK7000 i7-10510U, 16GB memory, 128G+32G solid-state, with WiFi

常用格口尺寸: 1号:195\*98\*48mm 3号:155\*82\*40mm  
Size of recycling bin: 195\*98\*48mm 155\*82\*40mm

型号 type no	外尺寸(mm) external dimensions	内尺寸(mm) internal dimensions	型号 type no	外尺寸(mm) external dimensions	内尺寸(mm) internal dimensions
0号	150*90*44	130*78*35	6号	318*160*87	291*148*74
1号	220*110*55	195*96*47	7号	283*182*110	260*162*100
2号	240*130*75	212*115*65	8号	352*242*94	325*230*80
3号	180*95*50	155*80*40	9号	352*242*94	325*230*38
4号	185*108*60	155*95*50	10号	352*242*95	325*230*80
5号	204*133*77	175*122*68			



▲ 智能格子柜  
Intelligent Lattice Cabinet

### 基本参数 / Basic Parameter

型号: AHNO-TB-G-Z90  
Type No: AHNO-TB-G-Z90

颜色: 米色  
Color: Beige

电源: AC 220V  
Power: AC 220V

功率: 100W  
Power: 100W

重量: 245kg  
Weight: 245kg

服务器: GK7000 i7-10510U 16G内存 128G+32G固态硬盘 带 WiFi  
Server: GK7000 i7-10510U, 16GB memory, 128G+32G solid-state, with WiFi

显示器: 15.6寸触摸屏  
Screen size: 15.6 inch touch screen

外观尺寸: 1100\*550\*1800mm  
Dimensions: 1100\*550\*1800mm

格口数量: 90格  
Number of openings: 90 lattice

格口尺寸: 小格: 95\*100\*430 (共80格)  
大格: 200\*120\*430 (共10格)

Lattice size: Small cell: 95\*100\*430 (80 cells in total)  
Big grid: 200\*120\*430 (10 grids in total)



▲ 智能格口称重柜  
Intelligent Grid Weighing Cabinet



▲ 智能抽屉称重柜  
Intelligent Drawer Weighing Cabinet

### 基本参数 / Basic Parameter

型号: AHNO-TB-P1-Z12  
Type No: AHNO-TB-P1-Z12

颜色: 米白/橘色  
Color: Beige/Orange

电源: AC 220V  
Power: AC220V

功率: 100W  
Power: 100W

重量: 330kg  
Weight: 330kg

显示器: 15.6寸触摸屏  
Screen size: 15.6 Inch Touch Screen

外观尺寸: 980\*470\*1780mm  
Dimensions: 980\*470\*1780mm

格口数量: 9/12 格  
Number of openings: 9/12 grids

格口尺寸: 352\*200\*400mm  
Lattice size: 352\*200\*400mm

单格称重极限: 20kg  
Single cell weighing limit: 20kg

称重精度: 1g  
Weighing accuracy: 1g

### 基本参数 / Basic Parameter

型号: AHNO-TB-P2-Z28  
Type No: AHNO-TB-P2-Z28

颜色: 橙色  
Color: Orange

电源: AC 220V  
Power: AC220V

功率: 200W  
Power: 200W

重量: 主柜约363kg  
副柜约350kg

Weight: Main cabinet 363kg  
Auxiliary cabinet 350kg

显示器: 21.5寸触摸屏  
Screen size: 21.5 inch touch screen

外观尺寸: 1000\*550\*1730mm  
Dimensions: 1000\*550\*1730mm

格口数量: 28/40格  
Number of openings: 28/40 lattice

格口尺寸: 200\*170\*70mm  
Lattice size: 200\*170\*70mm

单格称重极限: 20kg  
Single cell weighing limit: 20kg

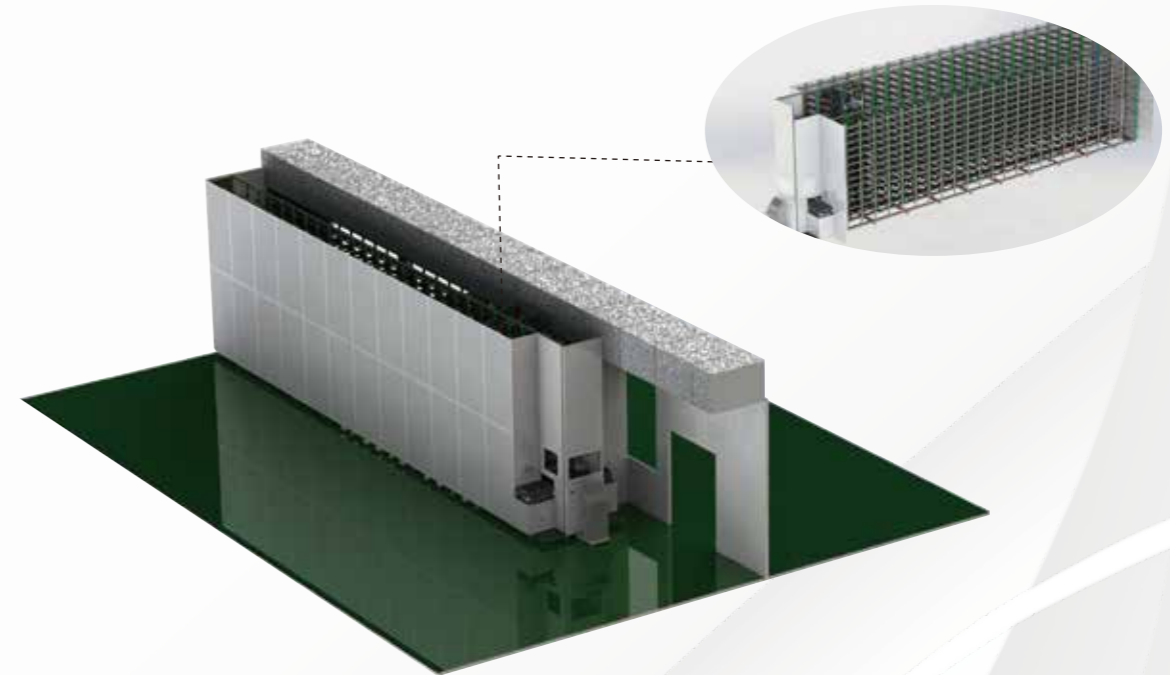
称重精度: 1g  
Weighing accuracy: 1g



▲ 立体货柜  
Vertical Container

基本参数 / Basic Parameter

型号: Type no	SLIM/MA/MC/MS/MX/ML SLIM/MA/MC/MS/MX/ML	托盘高度: Tray height	45mm/70mm/120mm 45mm/70mm/120mm
托盘载重: Pallet load	250-990kg 250-990kg	存储物料最大高度: Maximum height of stored materials	695mm 695mm
货柜高度: Container height	2,600mm-18,000mm 2,600mm-18,000mm	托盘装载货物净重: Net container loading capacity	250-500-750-1000kg 250-500-750-1000kg
货柜高度增加幅度: Container height increase	200mm 200mm	货柜净装载能力: Net container loading capacity	60,000kg 60,000kg
托盘存储调节幅度: Pallet storage adjustment range	25mm 25mm	货柜总装载能力: Total container loading capacity	70,000kg 70,000kg
托盘宽度: Pallet width	1500mm至4100mm 1500mm to 4100mm	存取能力: Access capability	最高120个托盘/小时(视货柜置而定) 提取或托盘双提取 Up to 120 pallets / hour (depending on the container) Depending on the setting) extraction or tray double extraction
托盘深度: Pallet depth	654mm至857mm 654mm to 857mm	存取口类型: Access port type	内置式存取口或外置式存取口 Built in access port or external access port



▲ 立体仓库  
Stereoscopic Warehouse

基本参数 / Basic Parameter

最大载荷: Maximum load	50kg	存取机构(LHD): Access mechanism (LHD)	单深, 双深 Single depth, double depth
高度: Height	13m	存取机构数量: Number of access institutions	1/2
立柱: Column	铝合金 Aluminium alloy	驱动方式: Driving mode	同步带, 摩擦驱动 Synchronous belt, friction driven
货物尺寸: Cargo size	W 360-600mm D 500-1000mm H 100-600mm	巷道最大长度: Maximum length of roadway	70m(同步带) 70m (synchronous belt)
运行速度: Running speed	240m/360mm	工作温度: Operating temperature	0-40°C (可选-25) 0-40 °C (optional -25)
运行加速度(最大): Lifting acceleration	3.0m/s	环境相对湿度: Ambient relative humidity	5% to 90%无凝露 No condensation
起升速度: Fork speed	80m/min	噪音: Noise	76dB(A)
起升加速度: Fork acceleration	1.6m/s	巷道宽度: Roadway width	D+160mm(Min.900)
货叉速度: Fork speed	60m/min	第一层尺寸: First floor size	450
货叉加速度: Fork acceleration	1m/s	最上一层高度尺寸: Height dimension of the top floor	H+270 (Min490)
		货架公差: Shelf tolerance	货架等级: 200 控制形式: C Shelf level: 200 control form: C

# 05

## 客户案例 Customer Cases



### 客户案例一 刀具室智能管理：F系列智能工具柜

### Customer case 1 Intelligent tool room management: F series intelligent tool cabinets

某台系企业、半导体行业  
A Taiwan enterprise, semiconductor industry



VS



### 客户的痛点难点 Customer pain points and difficulties

- 1、智能化车间改善有要求  
Requirements for improvement of intelligent workshop
- 2、加工铝件，一只刀具可用半年—两年不等，不易追踪寿命  
For processing aluminum parts, one tool can be used for half a year to two years, which is not easy to track the service life
- 3、客户稽核要求追溯使用轨迹，无法查询  
The customer audit requires tracing the use track, which cannot be queried
- 4、对应不到产品，成本核算不清楚  
There is no corresponding product, and the cost accounting is not clear

### 实现价值 Realize value

- 1、一体化设计，美观大方  
Integrated design, beautiful and elegant
- 2、管理到每一支刀具实时履历和剩余寿命  
Manage the real-time resume and remaining life of each tool
- 3、精准核算每一个工单、每一个产品的刀具消耗成本  
Accurately calculate the tool consumption cost of each work order and product
- 4、充分利用刀具，每支刀可反复多次使用  
Make full use of the cutter, each cutter can be used repeatedly
- 5、对接企业MES和ERP系统，数据实时互通  
Connect enterprise MES and ERP systems, and real-time data exchange

客户案例二  
线边仓智能管理：螺旋C柜+暂存回收柜

Customer case 2  
Intelligent management of line side warehouse: one main and one pair of spiral cabinets + temporary storage and recycling cabinets

华北区域某德系企业、仪器仪表行业  
A German company, instrumentation industry in North China



VS



使用工具柜前 Before

使用工具柜后 After

客户的痛点难点

Customer pain points and difficulties

- 1、车间与仓库不在同一栋厂房，领用耗时长--领料一次约30分钟  
The workshop and warehouse are not in the same building, so it takes a long time to collect materials--about 30 minutes at a time
- 2、夜班领料频繁，必须安排夜班仓库值班  
The night shift picking is frequent, and the night shift warehouse must be arranged to be on duty
- 3、报表制作繁琐，需要仓库安排助理登账  
The preparation of statements is tedious, and it is necessary for the warehouse to arrange assistants to book accounts
- 4、刀具种类过多，盘点查找不方便；经常紧急采购  
There are too many types of tools, which makes it inconvenient to check and find; Frequent emergency procurement
- 5、呆滞库存较多，流转率低  
There are more sluggish stocks and low turnover rate

实现价值

Realize value

- 1、线边放智能柜，领用归还快达10秒  
Put Intelligent tool cabinet at the production line edge, collect and return quickly 10 seconds
- 2、24小时无人值守，随用随取  
24-hour unattended, on-demand
- 3、自动记录，报表自动生成  
Automatic recording and report generation
- 4、低于安全库存量自动预警，避免生产断料  
lower than the safety stock automatic warning, to avoid production cut-off
- 5、人力+采购量+紧急采购+呆滞止损≈20万+/年  
Manpower+purchase volume+emergency purchase+sluggish stop loss ≈ 200,000+/year

客户案例三  
线边仓智能管理：螺旋柜一主一副+暂存回收柜

Customer case 3  
Intelligent management of line side warehouse: one main and one pair of spiral cabinets + temporary storage and recycling cabinets

某美系企业、医疗行业  
An American enterprise and medical industry



VS



使用工具柜前 Before

使用工具柜后 After

客户的痛点难点

Customer pain points and difficulties

- 1、传统柜体配置，与公司整体形象不搭  
The traditional cabinet configuration does not match the overall image of the company
- 2、客户稽核要求追溯使用轨迹，无法查询  
The customer audit request traces the usage track and cannot be queried
- 3、仓库有三千多种刀具，常用一千种左右，物料大小不一，储存密集  
There are more than 3,000 kinds of tools in the warehouse, and about 1,000 kinds of tools are commonly used. The materials are of different sizes and the storage is intensive
- 4、刀片拆包按“片”发放，且不时领取，仓管需要另外记录使用单位，负担加重  
Inserts are unpacked and issued according to "pieces", and they are collected from time to time. The warehouse management needs to record the user unit separately, which increases the burden
- 5、为避免夜班和频繁领料，每个车间都有小仓库，且需专人管理  
In order to avoid night shifts and frequent picking, each workshop has a small warehouse, which needs to be managed by special personnel

实现价值

Realize value

- 1、定制外形配合企业LOGO色  
Customized shape with corporate LOGO color
- 2、定制领料流程，支持通过GZ号即物料号领取，支持从BOM单中领取  
Customize the picking process, support receiving through GZ number, that is, material number, and support receiving from BOM list
- 3、刀具柜、虚拟仓、暂存柜统一管控出料，虚拟仓打印凭条去仓库领取  
Tool cabinets, virtual warehouses, and temporary storage cabinets are uniformly controlled and discharged, and virtual warehouses print receipts and go to the warehouse to collect them
- 4、拆包的，反复领用的可存入暂存柜中集中管理  
Unpacked, repeatedly used can be stored in the temporary storage cabinet for centralized management
- 5、刀具领取效率提高，晚间无人值守节省仓管人力，刀具采购量下降20%  
The efficiency of tool collection is improved, unattended at night saves warehouse management manpower, and the amount of tool purchases decreases by 20%

客户案例四  
线边量具管理：抽屉CT+D系列智能柜

Customer case 4  
Production line edge measuring tool management: drawer CT+D series Intelligent cabinet

某德系企业、热流体行业

A German enterprise, thermal fluid industry



使用工具柜前 Before

VS



使用工具柜后 After

客户的痛点难点

Customer pain points and difficulties

- 1、量具室管理所有量具，专人记录发放，对人员要求较高，难以及时准确登记  
The measuring tool room manages all measuring tools, and special personnel are assigned to record and distribute them. It is difficult to register accurately and timely because of high requirements for personnel.
- 2、量具使用频繁，夜班领取无人监管，紧急情况找不到需要的量具  
The measuring tools are used frequently, and the night shift collection is not supervised, and the required measuring tools cannot be found in emergency.
- 3、量具归还靠人力追踪，到期漏检验，盘点困难  
The return of measuring tools is tracked by manpower, and the inspection is missed when due, which makes the inventory difficult.

实现价值

Realize value

- 1、配备抽屉+格口智能量具柜，格口尺寸多种组合  
Equipped with drawer+intelligent measuring tool cabinet with multiple combinations of grid sizes.
- 2、员工人脸识别或账号密码登录，选中量具型号，格口自动弹开，节省查找时间  
Employee face recognition or account password login, select the measuring tool model, and the grid automatically pops up, saving search time.
- 3、实时显示前一使用者，方便查找和追溯  
Real time display of the previous user, convenient for searching and tracing.
- 4、管理员可根据物料的送检周期和上次送检日期，列出待送检列表  
The administrator can list the materials to be inspected according to the inspection cycle and the last inspection date.
- 5、存取记录自动生成，可查看领料记录、补料记录等  
The access record is automatically generated, and you can view the picking record, replenishment record, etc.

客户案例五  
线边量具智能管理：D系列智能工具柜

Customer case 5  
Intelligent management of line edge measuring tools: D series intelligent tool cabinet

某内资企业、刀具行业

A domestic enterprise, cutting tool industry



使用工具柜前 Before

VS



使用工具柜后 After

客户的痛点难点

Customer pain points and difficulties

- 1、智能化车间改善有要求  
There are requirements for the improvement of intelligent workshops.
- 2、损坏找不到责任人，多次重复购买  
The person responsible for the damage cannot be found, and the purchase is repeated many times.
- 3、现场使用随意，手工登记，登记不到位；关键时候找不到要用工具  
The on-site use is random, manual registration, and registration is not in place; the tools to be used cannot be found at critical times.

实现价值

Realize value

- 1、定制外形组合，柜体内统一存放，美观大方  
Customized shape combination, unified storage in the cabinet, beautiful and generous.
- 2、多种格口大小，物料分类专属收纳，大屏幕搜索智能查找  
Various grid sizes, exclusive storage for material classification, intelligent search on large screen.
- 3、刷卡+账号密码+人脸识别登录；绑定人员，部门，设置领用权限，方便追溯  
Swipe card + account password + face recognition login; bind personnel, departments, and set access rights, which is convenient for tracing.

客户案例六  
仓库管理：立体库

Customer case 6  
Warehouse management: Stereoscopic warehouse

某上市企业、刀具行业  
A listed enterprise and tool industry



使用工具柜前 Before

VS



使用工具柜后 After

客户的痛点难点

Customer pain points and difficulties

- 1、棒料仓库种类繁多，空间不够，管理繁琐  
There are many kinds of bar stock warehouses, and the space is not enough. The management is cumbersome
- 2、棒料密度大，配货搬运人力消耗高  
High bar density, high labor consumption for goods distribution and handling
- 3、专人单据处理，容易出错  
Documents are handled by specially assigned person, which is easy to make mistakes

实现价值

Realize value

- 1、堆垛机立体库统一管理，充分利用高度空间  
Stacker stereo library unified management, make full use of height space
- 2、自动出料，省去人工查找搬运  
Automatic picking, search and transportation manually
- 3、对接MES和ERP，扫描单据即可自动出入库  
Connect MES and ERP, and scan the documents to automatically enter and exit the warehouse
- 4、出料口配备激光指引和称重辅助，更精准配货  
The discharge port is equipped with laser guidance and weighing aid, which makes more accurate distribution
- 5、无纸化办公，操作简单便捷  
Paperless office, simple and convenient operation

客户案例七  
仓库+线边一体化管理：立体库+智能刀具柜组合

Customer case 7  
Warehouse+line edge integrated management: stereo warehouse+intelligent tool cabinet combination

某军工企业  
A military enterprise



使用工具柜前 Before

VS



使用工具柜后 After

客户的痛点难点

Customer pain points and difficulties

- 1、军工企业，人工管理帐不符实  
The manual management accounts of military enterprises are inconsistent with the facts
- 2、仓库和现场脱节，导致生产断料  
The warehouse is disconnected from the site, resulting in production material interruption
- 3、呆滞库存多，无法一体化管理  
Too many stale stocks to be managed in an integrated way

实现价值

Realize value

- 1、现场刀具柜+仓库立体货柜一体化管理，充分利用空间，客户现场整洁一新  
On-site tool cabinet+warehouse three-dimensional container integrated management, make full use of space, and the customer site is clean and tidy
- 2、管理员实时查询所有的库存、领用信息、领用数据、实时扣减数据互通、账目清晰  
The administrator can query all the inventory, collecting information, collecting data and real-time deduction data in real time, and the accounts are clear
- 3、刀具柜库存达到预警值推送给立体库实时补料  
When the tool cabinet inventory reaches the warning value, push it to the stereo warehouse for real-time replenishment

客户案例八 Customer Case 8  
线边小零件管理：称重式智能工具柜 Edge widget management: weighing intelligent tool cabinet

某美系企业、医疗行业  
An American enterprise and medical industry



客户的痛点难点  
Customer pain points and difficulties

- 1、说明书种类较多、每天使用量大；车间5S整理造成负担  
There are many kinds of instructions, and the daily usage is large; 5S burden
- 2、临时更换产品，需要搜寻说明书；样式多不易找  
For temporary replacement of products, you need to search for instructions; hard to find
- 3、想要管控好需要专人负责，增加工作量  
If you want to control it well, you need someone to take charge of it and increase the workload
- 4、库存数量不容易管控，造成紧急采购  
Inventory quantity is not easy to control, resulting in emergency procurement

实现价值  
Realize value

- 1、柜体内统一存放，美观大方  
The cabinet is stored in a unified way, which is beautiful and generous
- 2、系统自动匹配查找，选择要领的物料，格口打开，取走物料，操作简单便捷  
The system automatically matches and searches, selects the essential materials, opens the grid, and takes away the materials. The operation is simple and convenient
- 3、系统根据物料单重自动扣减库存，报表自动生成  
The system automatically deducts the inventory according to the material weight, and the report is automatically generated
- 4、低于安全库存量自动预警，避免生产断料  
When automatic warning lower than the safety stock, to avoid production cut-off

合作伙伴 / PARTNERSHIP

工程机械 Mechanical	三一集团	徐工集团	豪迈集团	万向集团	柳工集团
汽车行业 Automobile	圣万提	威孚集团	长城汽车	格致汽车	中国重汽
航空航天 Aviation	中国航天	大金航太	无锡航亚	江西信航	长征火箭
军工企业 Military	中国兵器	西安飞豹	航翼	蜂鸟	千机智能
电子行业 Electronic	富士康	安波福	绿点	立讯精密	经纬电子
医疗行业 Medical	史赛克	创辉	巴奥米特	纳通集团	百康特