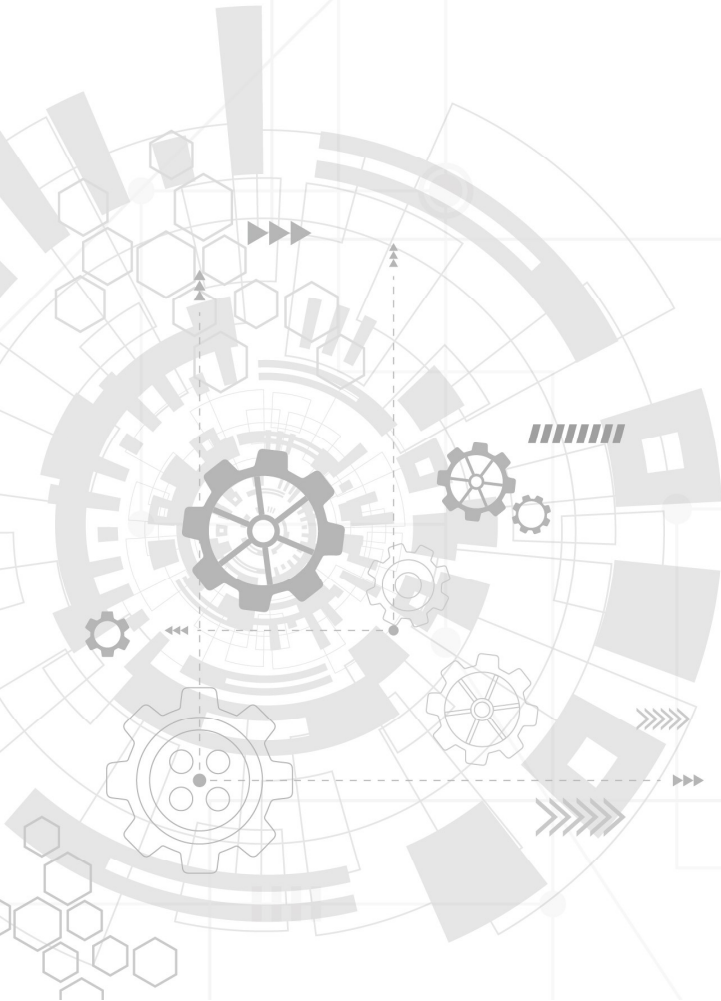


DTboost
EXPERT IN METAL INDUSTRY SMART MANUFACTURING



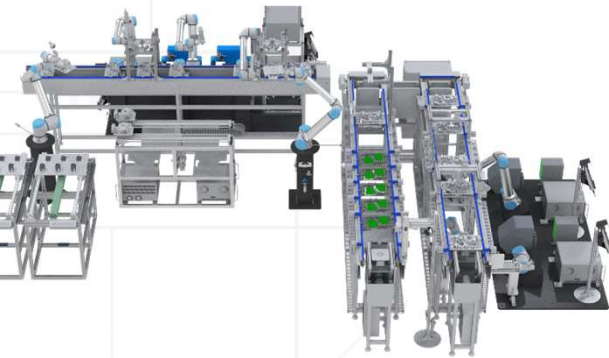
SMART MANUFACTURING SOLUTIONS FOR METAL INDUSTRY

達詳科技股份有限公司

DA SHIANG TECHNOLOGY CO., LTD.

SERVICE ITEM

AUTOMATED ASSEMBLY LINE FOR ELECTRIC
VEHICLE CONTROLLERS



LASER CUTTING & WELDING
FOR ALUMINUM ALLOY



CUTTING, DEBURRING,
GRINDING, SANDBLASTING

FMS, FLEXIBLE
MANUFACTURING SYSTEM

壓力鑄造製程自動化
Automatic Solutions
for Die Casting Process



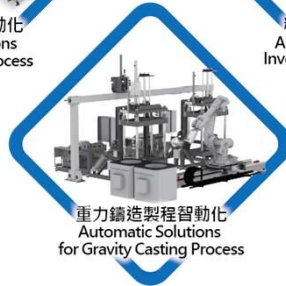
砂模鑄造製程自動化
Automatic Solutions
for Sand Casting Process



精密鑄造製程自動化
Automatic Solutions
for Investment Casting Process



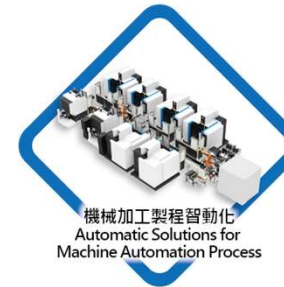
重力鑄造製程自動化
Automatic Solutions
for Gravity Casting Process



鑄造後處理製程自動化
Automatic Solutions for Post-
Treatment of Machining & Casting



機械加工製程自動化
Automatic Solutions for
Machine Automation Process



AS/RS 自動倉儲系統整合服務
Automated Storage-
Retrieval System Service



AI與智慧製造整合服務
AI & Intelligent
Manufacturing Service

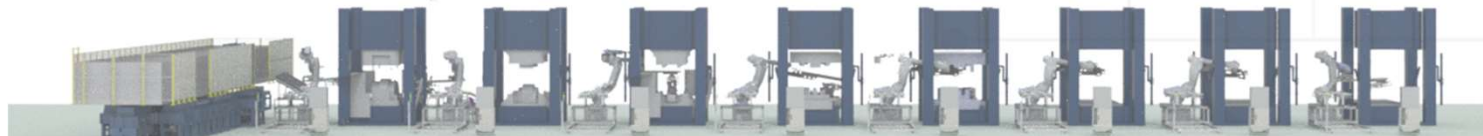


CASTING APPLICATION

MACHINE TENDING

STAMPING AUTOMATION

SMB, MES,
TOOLING MANAGEMENT SYSTEM
APP/WEB CUSTOMIZED SOFTWARE



EXPERT IN METAL INDUSTRY SMART MANUFACTURING

DTboost

//// DISTRIBUTION

OMRON



AUTOMATED
GUIDED VEHICLE



SCHUNK

GRIPPER & TOOL CHANGE



DOOSAN



COBOT
EXCLUSIVE GENERAL AGENT
IN TAIWAN



ABB

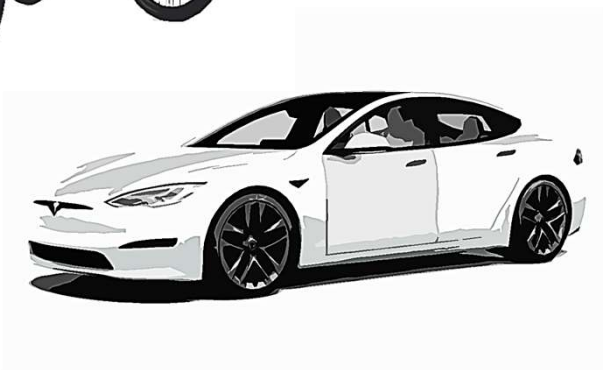
INDUSTRIAL ROBOT



Robotmaster®
OFFLINE PROGRAMMING SOFTWARE FOR ROBOTS

ROBOT OFF-LINE PROGRAMMING

//// ELECTRIC VEHICLE AUTOMATION APPLICATION



BIKE FRAME



CASTING PARTS



DC-DC
TRANSFORMER COVER



DRIVING GEAR



STAMPING PARTS



WHEEL & TIRE



CONTROLLER

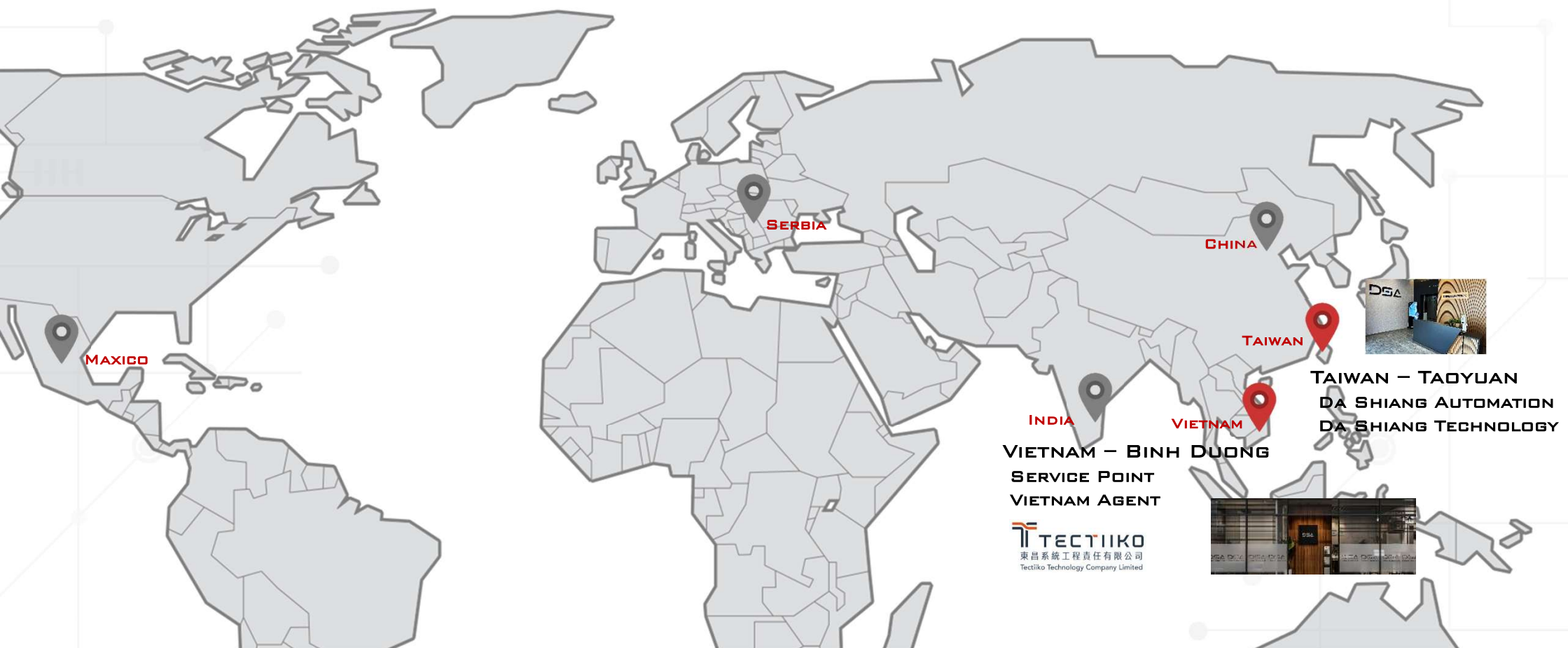


COOLING DEVICE

EXPERT IN METAL INDUSTRY SMART MANUFACTURING

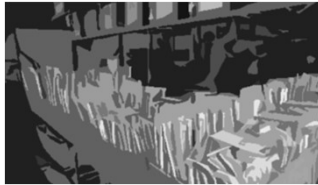
DTboost

//// SERVICE POINT



WHERE CAN IMPROVEMENTS BE MADE IN AUTOMATION ?

PREPARE MATERIALS

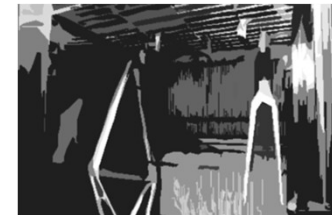


WELDING PROCESS



GRINDING PROCESS

ALUMINUM ALLOY & CARBON FIBER GRINDING



COATING PROCESS

AUTOMATED SOLUTIONS FOR BIKE FRAME MANUFACTURING

PREPARE MATERIALS

ALUMINUM ALLOY CASTING

- INVESTMENT CASTING
- GRAVITY CASTING
- DIE CASTING

MATERIAL GRINDING MACHINING TENDING

- MODULAR DESIGN

LASER CUTTING

- INTEGRATION WITH IPG LASER



WELDING

BUDGET VERSION

- SATISFIES LOW MANUFACTURING COST REQUIREMENTS

ALL-FUNCTION VERSION

- TCP AUTOMATIC CALIBRATION SYSTEM
- CYBER-PHYSICAL SYSTEMS WITH ROBOTMASTER
- AUTOMATIC WIRE TRIMMING AND CLEANING WELDING SLAG



FRAME GRINDING

ALUMINUM ALLOY

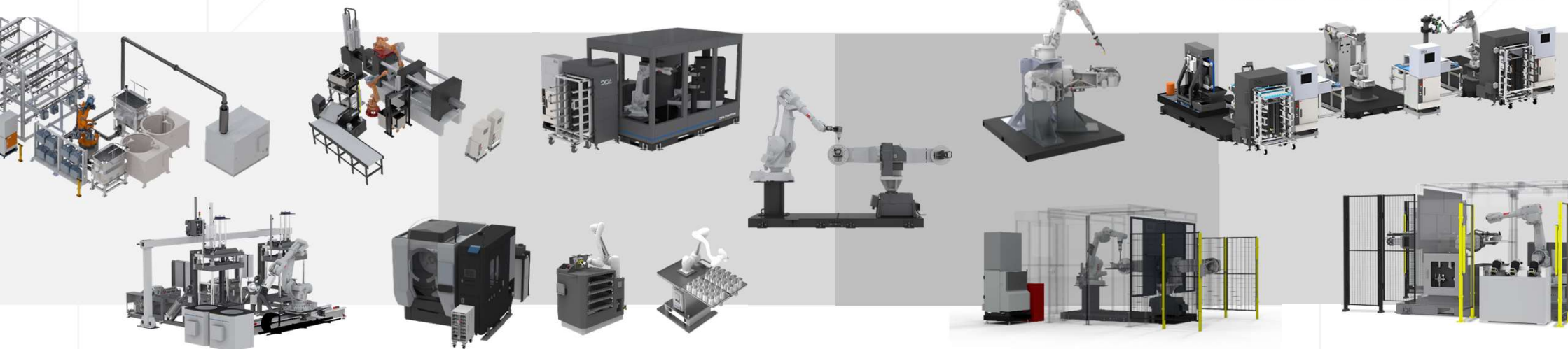
- WELD SEAM GRINDING
- GRINDING AFTER POWDER COATING
- FINAL POLISHING OF THE CLEAR COAT

CARBON FIBER

- MOLD RELEASE AGENT GRINDING
- GRINDING AFTER FILLING
- FINAL POLISHING OF THE CLEAR COAT

TRADITIONAL MANUAL OPERATION

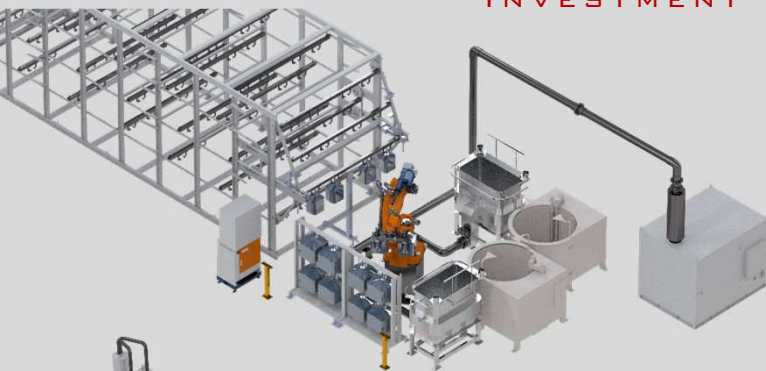
SMART MANUFACTURING



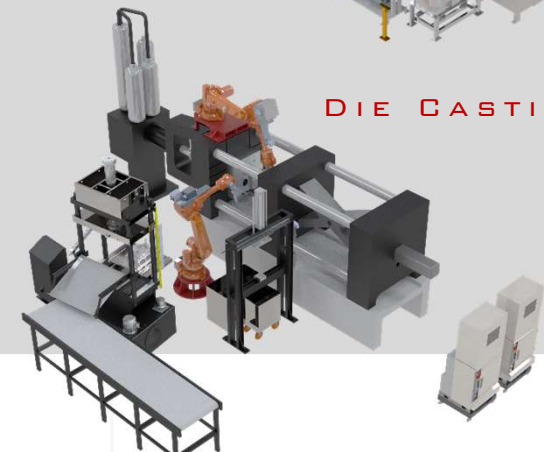
//// PREPARE MATERIALS

ALUMINUM ALLOY CASTING PROCESS

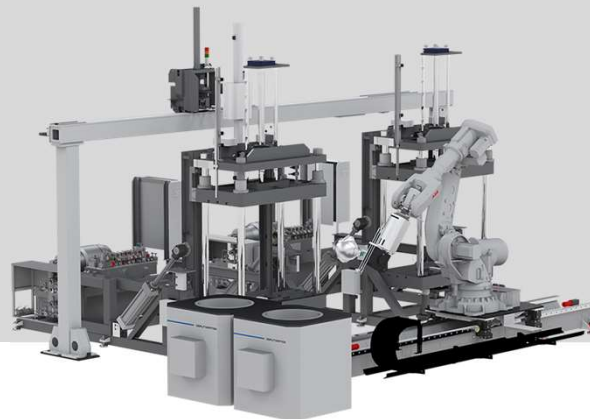
INVESTMENT CASTING



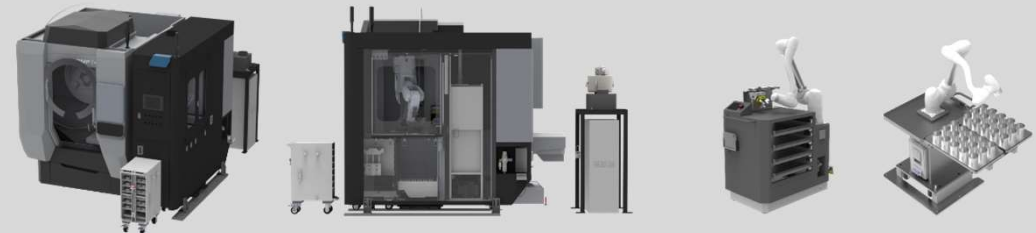
DIE CASTING



GRAVITY CASTING



ALUMINUM ALLOY MACHINING PROCESS



CNC MACHINE TENDING
MODULAR DESIGN



3D FEEDER & CART

MINIMIZE FLOOR SPACE USAGE WITH
MODULAR LOADING CART!

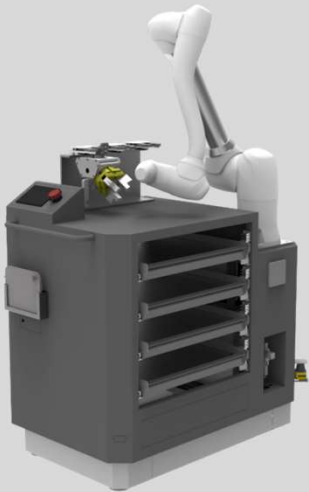


COBOT MODULAR CNC MACHINE TENDING SYSTEM



BUDGET VERSION: 49,000 USD

- 10KG COLLABORATIVE ROBOT
- FANUC FOCAS COMMUNICATION FOR CNC MACHINE INTEGRATION
- IP54 CONTROL CABINET, SUITABLE FOR USE IN VARIOUS PROCESSING ENVIRONMENTS
- MECHANISM FOR RAPID PRODUCTION LINE CHANGEOVERS
- DUAL-DISC PARTS STORAGE, WITH FIXTURE DESIGN FOR EASY REPLACEMENT
- INTEGRATION WITH LIDAR FOR ENHANCED SAFETY ASSURANCE
- SMB INTEGRATION FOR REAL-TIME PRODUCTION INFORMATION MONITORING, SUPPORTING APP PROGRAM SETTINGS

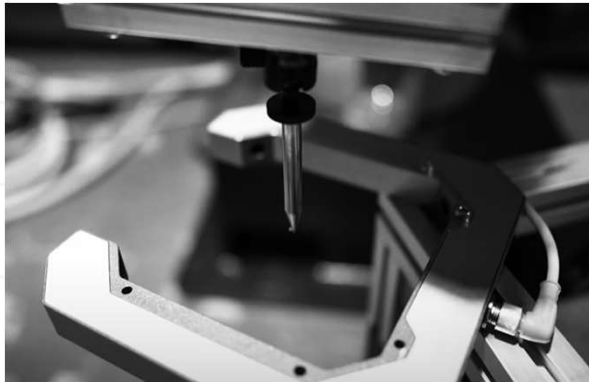


ADVANCED VERSION: 89,000 USD

- 20KG COLLABORATIVE ROBOT
- FANUC FOCAS COMMUNICATION FOR CNC MACHINE INTEGRATION
- IP54 CONTROL CABINET, SUITABLE FOR USE IN VARIOUS PROCESSING ENVIRONMENTS
- 3D VISION SYSTEM FOR INTELLIGENT AND RAPID PRODUCTION LINE CHANGEOVERS
- VISION SYSTEM NOT INSTALLED ON THE ROBOT ARM, ENSURING VISUAL STABILITY
- MULTI-LAYER PARTS STORAGE, REDUCING LABOR CHANGEOVER TIME
- DUAL LIDAR FOR ENHANCED SAFETY ASSURANCE
- INTEGRATION WITH TOOL CHANGE FOR FLEXIBLE PRODUCTION
- USER-FRIENDLY HMI FOR MONITORING PRODUCTION INFORMATION AND PROGRAM SETTINGS
- SMB INTEGRATION FOR REAL-TIME MONITORING OF PRODUCTION INFORMATION, SUPPORTING APP PROGRAM SETTINGS

//// HOW TO ACHIEVE CYBER-PHYSICAL SYSTEM?

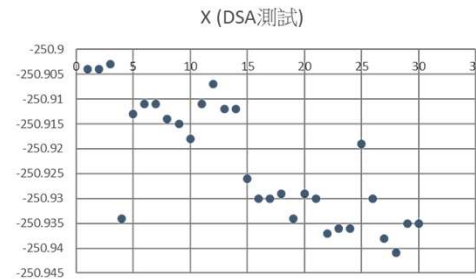
TCP CALIBRATION



OBJECTIVE

SYSTEM STANDARDIZATION AND SYNCHRONIZATION OF SIMULATION VALUES WITH REAL-WORLD VALUES, ENABLING OFF-LINE PROGRAMMING SOFTWARE TO BE ACCURATELY UTILIZED FOR ROBOT SYSTEMS.

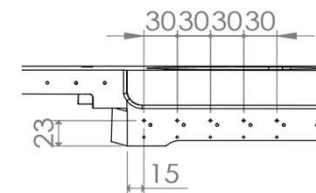
	X AXIS		Y AXIS		Z AXIS	
RESULT	DEVIATION	0.038	DEVIATION	0.036	DEVIATION	0.036



THE ABB IRB2600 ROBOT UTILIZES THE DSA TCP CALIBRATION SYSTEM TO ACHIEVE A MAXIMUM DEVIATION OF 0.038 MM IN THE XYZ THREE-AXIS

ABSOLUTE ACCURACY SYSTEM

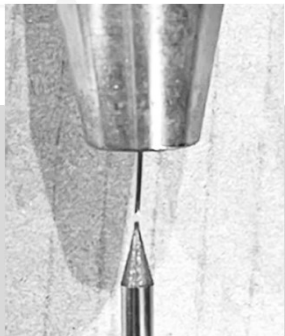
AFTER CALIBRATION				BEFORE CALIBRATION			
	IDEAL	MEASUREMENT	DEVIATION		IDEAL	MEASUREMENT	DEVIATION
TARGET 1	30	29.86	-0.14	TARGET 1	30	29.77	-0.23
TARGET 2	30	29.88	-0.12	TARGET 2	30	29.79	-0.21
TARGET 3	30	30.04	0.04	TARGET 3	30	29.89	-0.11
TARGET 4	30	29.96	-0.04	TARGET 4	30	29.83	-0.17



THESE ARE VALUES DIRECTLY OUTPUT FROM OFFLINE PROGRAMMING SOFTWARE, PROCESSED BY THE ROBOT, AND MEASURED IN ACTUALITY

COMPARISON OF WIRE CALIBRATION FOR WELDING GUNS AFTER ROBOT TCP CALIBRATION

ROTATE 180 DEGREES



MANUAL CALIBRATION

ROTATE 180 DEGREES

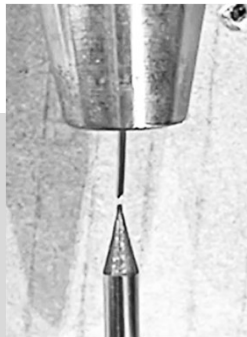
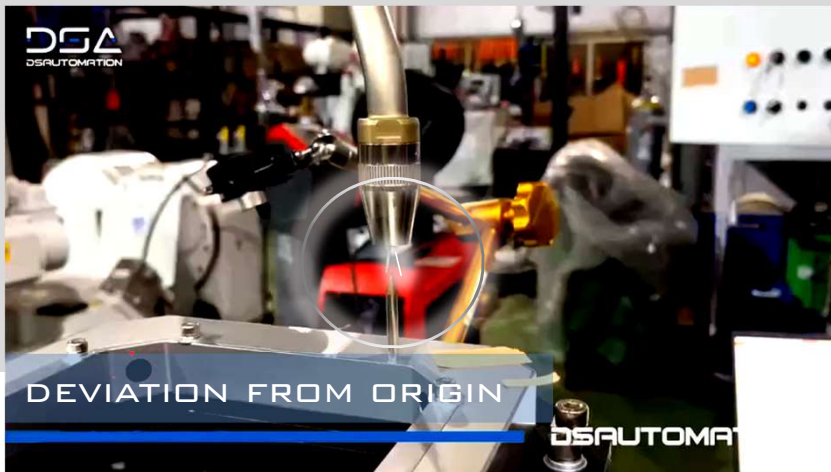


ABB BULLSEYES CALIBRATION

ROTATE 180 DEGREES



DSA TCP CALIBRATION



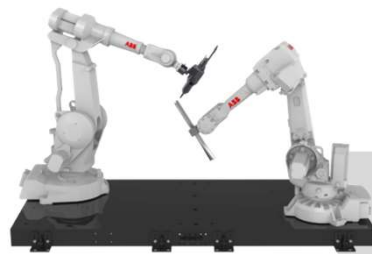
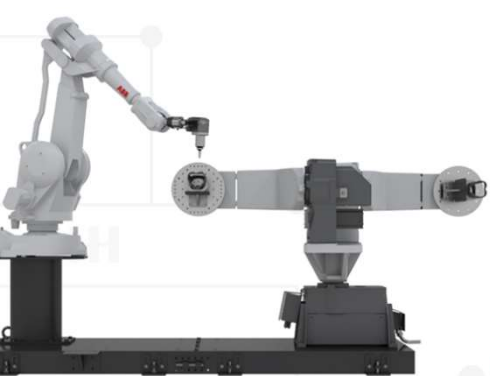
BEFORE DSA TCP CALIBRATION



AFTER DSA TCP CALIBRATION

LASER CUTTING FOR BIKE FRAME

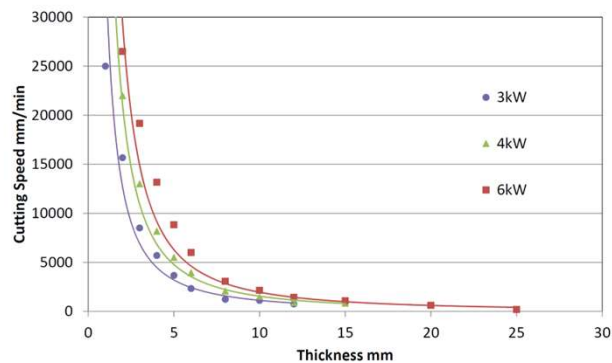
Robotmaster[®]
OFFLINE PROGRAMMING SOFTWARE FOR ROBOTS



HIGH ACCURACY CALIBRATION



Aluminum



- **PRECISION PERFECTED**
THE IPG LASER SYSTEM, COUPLED WITH DSA'S HIGH-PRECISION CALIBRATION, ENSURES LASER CUTTING ACCURACY WITHIN $\pm 0.2\text{mm}$, OPTIMIZING WELDING AND PRODUCTION QUALITY.
- **CUSTOMIZED LASER POWER**
TAILOR THE LASER POWER TO MATCH VARIOUS MATERIALS AND THICKNESSES, MEETING YOUR SPECIFIC CUTTING REQUIREMENTS.
- **ENERGY EFFICIENCY AND LONGEVITY**
SAVE UP TO 60% ON POWER CONSUMPTION, WITH A MAINTENANCE-FREE, LONG OPERATIONAL LIFE OF UP TO 100,000 HOURS.
- **OPTIMAL AUTOMATION SOLUTION**
IN ADDITION TO THE TRADITIONAL ROBOT AND POSITIONER SETUP, WE ALSO OFFER A DUAL-ROBOT SOLUTION FOR MORE CONVENIENT AUTOMATION INTEGRATION.

ROBOTIC WELDING PROCESS

Robotmaster®
OFFLINE PROGRAMMING SOFTWARE FOR ROBOTS



ROBOTIC WELDING
REPLACE MANUAL WELDING



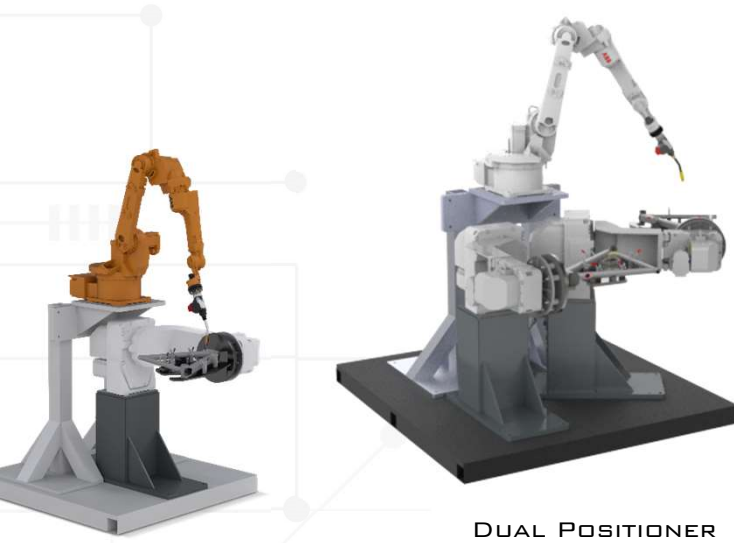
- **ACHIEVE PROCESS STANDARDIZATION AND SAVE MANPOWER**

ACCURATE CALIBRATION METHODS AND CORRECT SELECTION OF ROBOT FUNCTIONS ENABLE THE WELDING SYSTEM TO ACHIEVE STANDARDIZATION, MAKING WELDING AUTOMATION NOT ONLY SAVE MANPOWER BUT ALSO ACHIEVE STANDARDIZATION

- **CYBER-PHYSICAL SYSTEMS WITH ROBOTMASTER**

THE CALIBRATED WELDING AUTOMATION SYSTEM, COMBINED WITH ROBOTMASTER OFFLINE PROGRAMMING SOFTWARE, ALLOWS THE SYSTEM TO ACHIEVE CYBER-PHYSICAL SYSTEM.

//// LOW-COST AUTOMATED WELDING SOLUTION



SINGLE POSITIONER

DUAL POSITIONER



DUAL WORKSTATION EXCHANGE POSITIONER

- **SINGLE POSITIONER ECONOMY VERSION:**

THIS IS A LOW-COST AUTOMATIC WELDING SYSTEM THAT UTILIZES ONLY A SINGLE 2-AXIS POSITIONER FOR WELDING OPERATIONS. THIS DESIGN ALLOWS FOR THE AUTOMATION OF WELDING FUNCTIONS WHILE CONTROLLING COSTS.

- **DUAL POSITIONER ECONOMY VERSION:**

THIS AUTOMATIC WELDING SYSTEM IS EQUIPPED WITH DUAL 2-AXIS POSITIONERS. COMPARED TO THE SINGLE POSITIONER VERSION, IT IMPROVES PRODUCTION EFFICIENCY BY 10%.

- **DUAL WORKSTATION EXCHANGE POSITIONER ECONOMY VERSION:**

THIS AUTOMATIC WELDING SYSTEM IS EQUIPPED WITH DUAL WORKSTATIONS AND INTERCHANGEABLE 2-AXIS POSITIONERS. THIS DESIGN ALLOWS WELDING AT ONE WORKSTATION WHILE THE OTHER WORKSTATION CAN PERFORM LOADING, UNLOADING, AND OTHER PRE-WELDING OR POST-WELDING OPERATIONS. NOT ONLY DOES IT INCREASE PRODUCTION EFFICIENCY BY 10%, BUT IT ALSO ENHANCES THE CONVENIENCE OF AUTOMATION.

- THIS AUTOMATED WELDING SYSTEM FOR FRAME WELDING IS CURRENTLY THE MOST POPULAR AND COST-EFFECTIVE. IT OFFERS THE ADVANTAGES OF LOW COST AND HIGH EFFICIENCY, MAKING IT WIDELY FAVORED.
- THIS AUTOMATIC WELDING SYSTEM DOES NOT HAVE FEATURES FOR WELDING GUN CLEANING, WIRE CUTTING, AND TCP CALIBRATION. CONSIDERATION FOR FUTURE UPGRADES BASED ON SPECIFIC NEEDS TO PROVIDE MORE CONVENIENT AUTOMATION FEATURES IS POSSIBLE.

GRINDING OF ALUMINUM ALLOY



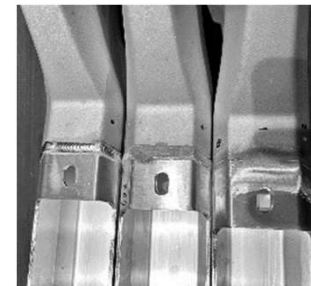
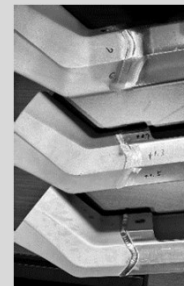
- **IDEAL SOLUTION FOR RAW MATERIALS**
ESPECIALLY FOR CARBON FIBER AND ALUMINUM BICYCLE FRAME
- **MODULAR SOLUTIONS**
FLEXIBLE SYSTEM GIVES THE FREEDOM TO CHOOSE
- **SYSTEM PROGRAMMED WITH ROBOTMASTER**
DRASTICALLY REDUCE PROGRAMMING TIME ESPECIALLY IN HIGH-MIX OR LOW-VOLUME PRODUCTION RUNS



ROBOTIC GRINDING PROCESS FOR BIKE FRAME

CREATING A **NEW** INDUSTRY STANDARD

- **IDEAL SOLUTION FOR RAW MATERIALS**
ESPECIALLY FOR CARBON FIBER AND ALUMINUM BICYCLE FRAME
- **MODULAR SOLUTIONS**
FLEXIBLE SYSTEM GIVES THE FREEDOM TO CHOOSE
- **SYSTEM PROGRAMMED WITH ROBOTMASTER**
DRASTICALLY REDUCE PROGRAMMING TIME
ESPECIALLY IN HIGH-MIX OR LOW-VOLUME PRODUCTION RUNS
- **EASY TOOL AND SANDPAPER CHANGER DESIGN**
THE INNOVATIVE GRINDING SYSTEMS ARE SUITABLE FOR THE SURFACE TREATMENT OF A WIDE VARIETY OF MATERIALS ACROSS ALL INDUSTRIES



//// WIDE RANGE OF DEBURRING, POLISHING AND GRINDING TOOLS



ESB3K-FW



ESB3K-C



ESB7K-H



ESB3K-DB

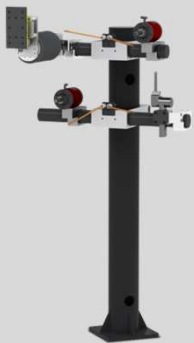


ESB3K-DL



ESB3K-DS

CHOOSE FROM A VARIETY OF SAND-BELT GRINDER TO SUIT YOUR NEEDS



AC100F



AC300



LC300



LC300S



LC400



LCZ100



LCZ200



SB800



PC600



PC900



RC100



RC300



RC300P



RC400



RC100F



OPTIMAL PRODUCTIVITY

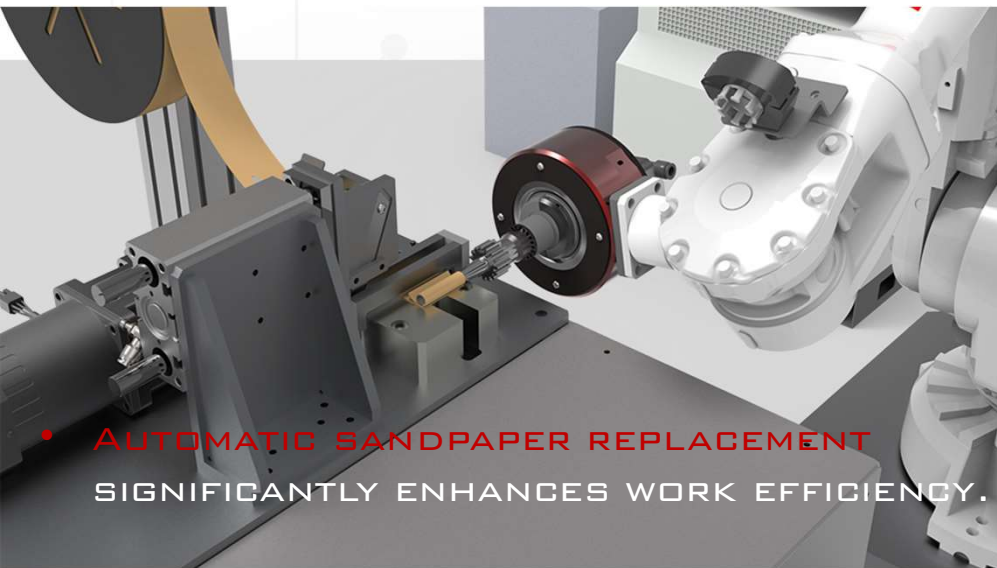
WITH ALL THE ABOVE GRINDER AND TOOL OPTIONS, USERS CAN CHOOSE ONE THAT WILL BEST FIT THEIR BUSINESS'S NEEDS TO MAXIMIZE THE PRODUCTIVITY.

//// CORNER AREA GRINDING SOLUTION

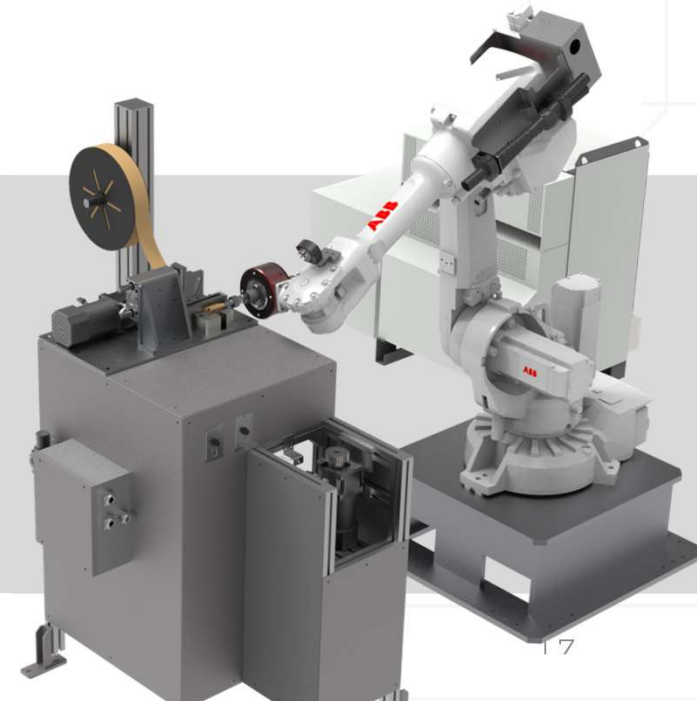
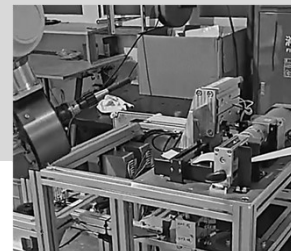


- GRINDING IN TIGHT CORNERS EFFECTIVELY INCREASES THE COVERAGE RATE FROM THE ORIGINAL **60-70% TO 80-90%**.
- VARIOUS SANDPAPER FORMS CAN BE FREELY SELECTED, SUITABLE FOR PROCESSING DIFFERENT MATERIALS.

SANDPAPER-TYPE GRINDING TOOL KIT, STG-01



- **AUTOMATIC SANDPAPER REPLACEMENT** SIGNIFICANTLY ENHANCES WORK EFFICIENCY.



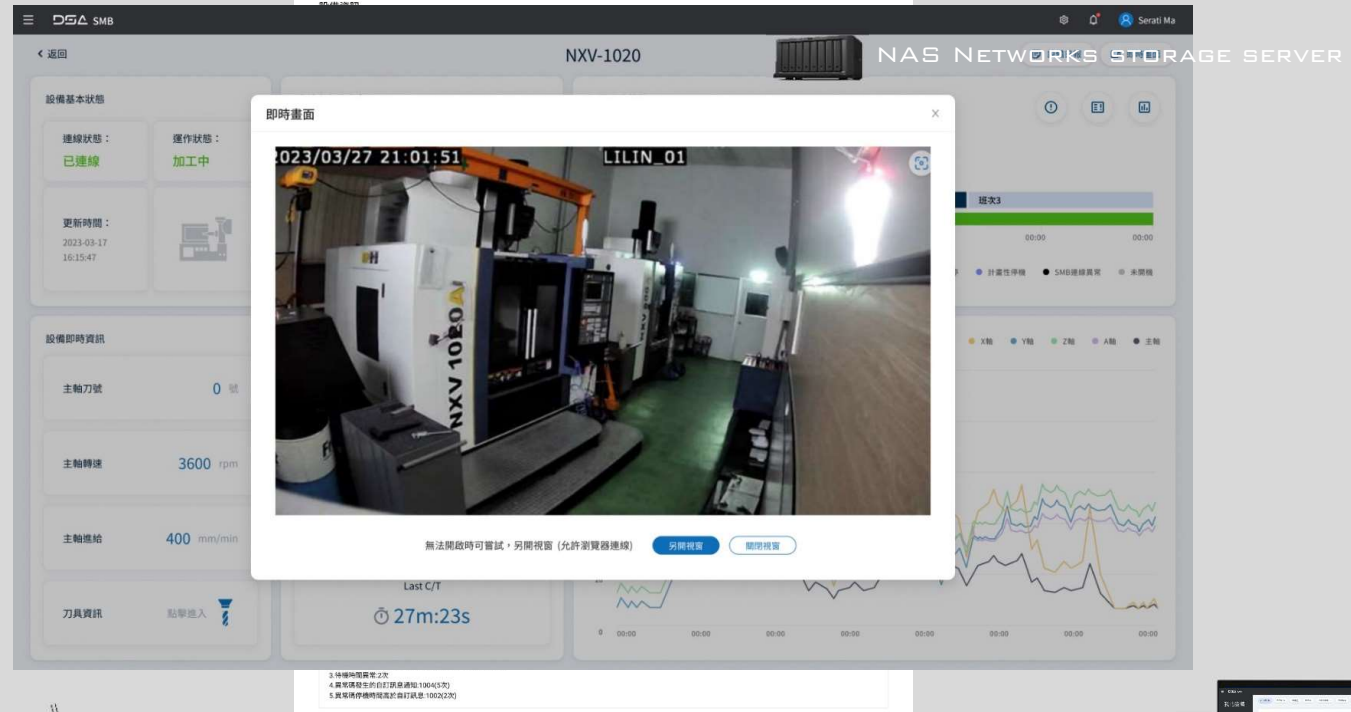
EXPERT IN METAL INDUSTRY SMART MANUFACTURING

DTboost

SMART MACHINE BOX

Microsoft
Azure

THE SMB SYSTEM CAN BE APPLIED TO CNC, DIE-CASTING AND GRINDING EQUIPMENT, AND MORE.



EXTEND ON THE BASIS OF DSA SMB

TOOL MANAGEMENT
SYSTEM, TMS



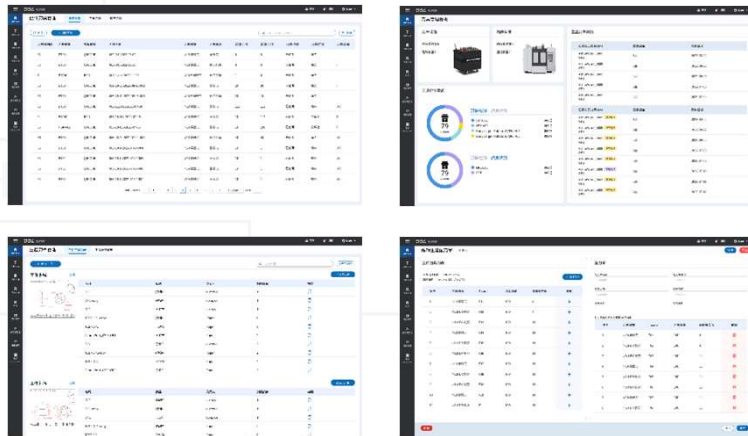
MANUFACTURING EXECUTION
SYSTEM, MES

TAIWAN, CHINA & EUROPEAN INVENTION PATENT GRANTED



TOOL MANAGEMENT SYSTEM

TAIWAN, CHINA & EUROPEAN INVENTION PATENT GRANTED



IMPROVING EFFICIENCY

THE DSA TOOL MANAGEMENT SYSTEM AUTOMATES TOOL TRACKING, ALLOCATION, AND MANAGEMENT, SIGNIFICANTLY ENHANCING TOOL EFFICIENCY. WHEN INTEGRATED WITH THE DSA SMART TOOL CART, IT ACCURATELY IDENTIFIES AND MANAGES TOOL STATUS AND LOCATION, REDUCING MANUAL ERRORS AND TIME, AND IMPROVING PRODUCTION EFFICIENCY.

COST SAVINGS

IT FACILITATES BETTER PLANNING OF TOOL USAGE AND MAINTENANCE, AVOIDING UNNECESSARY TOOL WEAR OR PREMATURE DISPOSAL. THIS LOWERS THE FREQUENCY OF TOOL REPLACEMENTS, RESULTING IN COST SAVINGS.

TRANSPARENCY OF INFORMATION

THE SYSTEM OFFERS REAL-TIME TOOL INFORMATION, INCLUDING LOCATION, STATUS, AND MAINTENANCE RECORDS. THIS ALLOWS MANAGEMENT PERSONNEL TO GAIN TIMELY INSIGHTS INTO TOOL STATUS, FACILITATING PROMPT MANAGEMENT AND MAINTENANCE.

OPTIMIZING PRODUCTION

THROUGH ANALYSIS OF TOOL USAGE WITHIN THE SYSTEM, THE PRODUCTION PROCESS CAN BE OPTIMIZED, ENHANCING PRODUCT PRECISION AND QUALITY, THEREBY IMPROVING THE ENTIRE PRODUCTION WORKFLOW.

ENSURING SAFETY

IT ENABLES THE TIMELY DETECTION OF TOOL STATUS, PREVENTING ACCIDENTS CAUSED BY TOOL-RELATED ISSUES, AND ENHANCING WORKPLACE SAFETY.

TECHNOLOGY MAKES CYCLING ENJOYABLE

DTboost



DSA EDM

DSA 電子型錄

PRODUCT BROCHURE QR CODE

THANK YOU



Q & A



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