• ROBOTS – COLLABORATIVE, MOBILE, TRADITIONAL
• MACHINE SAFETY & GUARDING
• CONVEYORS & PARTS FEEDERS
• MACHINE VISION
• ID MARKING, READING, PARTS TRACEABILITY
• SMART SENSORS
• AUTOMATION & MOTION CONTROL
• PLCs, HMI, & INDUSTRIAL PCs
• ELECTRICAL ENCLOSURES & PANEL ASSEMBLY
• IIoT CONNECTIVITY – LOCAL & WIRELESS REMOTE
• STRUCTURAL FRAMING ENCLOSURES
ACHIEVE YOUR LEAN MANUFACTURING GOALS NOW.

Automation projects normally must wait on budget cycles before implementation. But with Cobots, you can buy them on a lease ($1 buy-out or fair-market value) and cut costs immediately.

DO NOT LET THE BUDGET PROCESS HARM YOUR FUTURE - START SAVING TODAY!

- Leasing not an option? Then “RENT-TO-OWN” or “HIRE-A-BOT” by the month
- They produce SAFER work environments by dramatically reducing Repetitive Strain Injuries
- Quick, low-cost automation of dull tasks with easy implementation
- Your long-standing operators can program and manage the cobot
- Let HTE train your own “cobot specialist” at a 2-day course (STL or KC)
- Ultra-high degree of task flexibility during or between shifts
- Sets a defined work cadence for all workers on the same line

TRANSFORMATION TECHNOLOGY OFTEN DELIVERS 6 - 9 MONTH ROI

Why HTE for Robotics?

- Every discussion starts by first understanding your requirements.
- HTE features robotic solutions using 5 distinct robotic technologies allowing us to optimally meet your application’s needs.
- HTE’s TECHTEAM of cobot application engineers is experienced at applying robots in non-traditional applications.
- Using integral I/O ports, we connect external accessories and provide functional work-cell support.
- INTEGRATOR NETWORK For more complex jobs, HTE works with our certified integrator partner network, allowing you to deal with a single supplier. We will also partner with the integrator of your choice.

What’s Your Challenge?

- Keeping Product Consistency
- Optimizing Long Milling Cycles
- Production Bottlenecks
- Crowded Floor Space
- Inconsistent Product Quality
- Scrap Expense
- Repetitive Strain Injuries
- Talent Doing Routine Tasks
- Struggle to Hire Skilled Workers
- Staffing 3rd Shift

Start with Proof of Functional Success

- Proper Load Sizing & Reach Requirements
- Identify & Meet Speed Requirements
- Select/Design Optimal End-of-Arm Tooling
- Conduct ‘Safety Audit’ to ensure Worker Safety

Ongoing Local Life-Cycle Support

- Warranty Support
- Software Upgrades
- New Task Turnkey Integration Coordination
- On-Site Discovery “Audit” Walk-Throughs

WORK CELL ACCELERATION REVIEW

To maximize your productivity, flexibility, quality, and safety goals, we will conduct a complimentary work cell acceleration review in your plant.

Call Now To Schedule: 800.444.4831

Exceptionally small footprint requiring no permanent floorspace

DO YOU STRUGGLE WITH THESE ISSUES?

Machine Builder Partners

Task Integration Partners

System Integrator Partners

Local Supply • Service Support

Transform work-cell productivity with HTE Automation’s TECHTEAM

WHAT’S YOUR CHALLENGE?

SAFETY "OUTSIDE THE CAGE!" working elbow to elbow with line workers

WHAT’S YOUR CHALLENGE?

INTEGRATOR NETWORK
GIVE YOUR WORKERS AN EXTRA TEAMMATE FOR THOSE BORING TASKS

CNC MACHINE TENDING  ASSEMBLING  PICKING & PLACING  SCREWDRIVING

PRESS TENDING  POLISHING & SANDING  WELDING & SOLDERING  GLUING & SEALING

Exceed production goals via INCREMENTAL AUTOMATION with cobots

Automation you can REDEPLOY in hours

The COMPLETE TOOLKIT for 21st Century MANUFACTURING

ONE ARM with multiple INTERCHANGEABLE “HANDS”
SAFELY TRANSFORM IN-PLANT LOGISTICS WITH HTE AUTOMATION’S TECHTEAM

AUTONOMOUS MOBILE ROBOTS

THE AMRs AUTO-MAP YOUR PLANT

High tech on-board laser scanners see 360° from 1 inch to 6 feet vertically and laterally as they initially map your plant, and then, during operation are constantly sensing the area, resulting in a dramatically safer operating environment than fork or hand trucks.

MiR’s autonomous navigation system includes the ability to open rolling gates via a wifi module, drive through tunnels, stop at predetermined locations, and with either 2” or 1.2” ground clearance, navigate ramps and bumps.

Without any human input, the AMR will solve challenges encountered during its travels like avoiding the unpredictable movements of people, equipment, and supplies.

With Auto-Recharge Intelligence, the MiR AMR will dock itself and get the energy it needs to finish the job.

The MiR AMRs easily adapt to any floor reconfiguration of a production area simply by remapping the area.

WHAT WILL YOU PICK-UP & DELIVER TODAY?

- Raw Materials
- Pallets of Component Parts
- Inter-Stage Production Parts
- Pallets of Finished Product
- Packages to Ship or Receive
- Machine Tooling
- Bins of Scrap or Trash
- Filing Boxes

AMRs PROVIDE “ULTIMATE” SAFETY & FLEXIBILITY

KEEP FORKLIFTS OUT OF YOUR PRODUCTION AREA

GAIN SPACE & FLEXIBILITY BY ELIMINATING CONVEYORS

The MiR 100 and 200 provide almost limitless flexibility when paired with the ROEQ Cart System. Choose from a wall- or floor-mount Easy Pull-Out docking method, or for .036” precise placement choose the Firmly Held Precision Docking Station.

For heavy loads up to 2,200lbs use the MiR Shelf Lift.

HTE SERVICES

- In-house custom cart design and build
- System integration via one of our certified integration network partners

DOCKING STATIONS

EASY PULL OUT

FIRMLY HELD PRECISION (+/- .036”)
Universal Robots World’s #1 collaborative industrial robot that teams up with people outside of safety cages, and requires no expensive programming or integration. Empowering People is the focus of Universal Robots.

Epson Worlds #1 SCARA robot and traditional robots that offer high precision, speed, performance, ease of use, and now with force guided sensing and optional machine vision - the highest industry value. World’s only single source integrated vision guided 3D picking system.

Mobile Industrial Robots (MiR) Autonomous Mobile Robots for automation of internal transport and logistics solutions. Optimize workflows, increase productivity, reduce costs, all with a rapid ROI of 8-16* months.

ROEQ Productivity platforms for MiR autonomous robots including pallet loading, trailer, and cart modules.

*Faster when monetizing the avoidance of worker’s comp claims, product damage and maintenance of forklifts.

UR Cobots Operate Safely Right Next to People

UR5e 11.0 lb Payload 35.3 lb Payload
33.5” Reach 35.4” Reach

UR3e 6.6 lb Payload 19.7” Reach

UR10e 22.0 lb Payload 51.2” Reach

All-In-One 6-Axis Robots Priced Under $14,000

All-In-One SCARA Robots Priced Under $9,500 - 13.2 lb $7,500 - 6.6 lb

Robotiq Rapid robot deployment with Robotiq’s plug and play end-effectors, multi-axis force and torque sensors, and remote monitoring of robot solutions

ATI Industrial Automation Engineering-based developer of robotic accessories and robot arm tooling

Coval Vacuum Technology Vacuum end-effectors

Millibar Tool changing solutions

OnRobot With the new OnRobot one system solution the Quick Changer is conveniently built in to all OnRobot solutions

Reiku Cable Management and Protection Solutions

Soft Robotics Intelligently Designed Mounting Systems

Swivellink Intelligently Designed Mounting Systems

Vectis Automation Welding Solutions for UR Cobots

MECHANICAL ACTUATORS

Tolomatic High-force electric linear actuators, all with long-lasting standard planetary roller screws

Accu-Tech USA Smooth Acting, Precise and Long Lasting Linear Guides and Ballscrews

Intelligent Actuator (IAI) Easy-to-use programmable actuators (RoboCylinder)

Nook Linear Motion Systems
HTE’S VERSASTACK COLLABORATIVE PALLETIZER

- UR10e driven palletizer w/single or dual loading station(s)
- Intuitive recipe-driven pallet/box patterning & slip-sheet layering with easy-to-use software
- 7th vertical axis for automatic adaptable height adjustment

OPTIONS (not pictured):
- Slip-sheet insertion
- Portability - to allow VERSASTACK to serve multiple lines in a plant, maximizing ROI
- 3D safety scanner for area protection w/programmable area zones (audible/pause)
- Turnkey installation/integration with conveyor lines & ERP system
- Integration with Autonomous Mobile Load/Unload Stations via HTE’s Integration Partner Network (pictured to the right)

COLLABORATIVE ROBOT ECONOMICS

<table>
<thead>
<tr>
<th>CAPACITY EXPANSION</th>
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<tbody>
<tr>
<td>Increased ability to pursue new business opportunities without hiring</td>
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<table>
<thead>
<tr>
<th>HEALTH &amp; SAFETY DIVIDENDS</th>
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<tbody>
<tr>
<td>Eliminate Injuries</td>
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<tr>
<td>Repetitive Motion</td>
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<tr>
<td>Boredom Related</td>
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<tr>
<th>PERSONNEL DIVIDENDS</th>
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<tr>
<td>Easy Permanent Hire for Routine Tasks</td>
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<tr>
<td>Avoid Wage Penalty</td>
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<tr>
<td>Attract Young Talent</td>
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<tr>
<th>NEW PRODUCT EXPANSION</th>
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<tr>
<td>Expanded vision for new product offerings and different business</td>
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<table>
<thead>
<tr>
<th>QUALITY DIVIDENDS</th>
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<tbody>
<tr>
<td>High Consistency</td>
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<tr>
<td>Increased Precision</td>
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<tr>
<td>Human Touch Sensitivity</td>
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<tr>
<th>FINANCIAL ROI</th>
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<tbody>
<tr>
<td>3-16 Months</td>
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<tr>
<td>6.2 Avg</td>
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<tr>
<th>OPERATIONAL DIVIDENDS</th>
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<tbody>
<tr>
<td>Sets Line Cadence</td>
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<tr>
<td>Flexible Deployment</td>
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<tr>
<td>Reduced Floor space Req</td>
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<tr>
<th>INCREASED CREATIVEITY</th>
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<tbody>
<tr>
<td>Unlock Human/Machine Collaboration Power</td>
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<tr>
<td>Increased Productivity Rate</td>
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<thead>
<tr>
<th>TRAINING DIVIDENDS</th>
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<tbody>
<tr>
<td>No Specialist Required</td>
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<tr>
<td>87 Minutes to Functional</td>
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<tr>
<td>2 Days to Proficient</td>
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<tr>
<td>Local Training</td>
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<tr>
<th>SPEED DIVIDENDS</th>
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<tr>
<td>Cash Flow Savings Lower vs. Budget Cycle Delay</td>
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<tr>
<td>Workforce Stability</td>
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<tr>
<td>Consistent Performance/Perfect Attendance</td>
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<tr>
<th>ENHANCED PLANT LAYOUT</th>
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<tr>
<td>Paradigm Shift in Task Assignments</td>
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LOCAL FACTORY TRAINING

HTE Automation is an Authorized Training Center for Universal Robots with classes held in Kansas City and St. Louis. Intrinsically to the value of UR’s collaborative robots is that they are designed to be rapidly implemented, programmed and operated by plant floor personnel, not by robotics engineers. Most companies have staff capable of absorbing the information taught in our class.

UR CORE TRAINING 2-DAY CURRICULUM

- Safety
- Cartesian Coordinate System
- Implementation Planning
- Program Flow
- Start-Up
- Process Application with Operator Selection
- Force Control
- Application and Optimization for Pick & Place and Palletizing
- Flexible Redeployment, and
- Ongoing support including Online Resources.

COGNEX - HTE also specializes in Machine Vision and Product ID training for COGNEX, the world’s machine vision leader. The premier COGNEX class spans 4-days and will give new or potential users an overview of the hardware and software used by In-Sight Vision Systems.

COGNEX IN-SIGHT, EASYBUILDER & SPREADSHEETS CURRICULUM

- Connect In-Sight camera to network
- Capture an image with the camera
- Calibrate the image using real world measurements
- Utilize a variety of Locator Tools to find their part
- Inspect a part using various ID and Defect Tools
- Configure and Input a Discrete Output line
- Describe use of communications within EasyBuilder
- Utilize various tools available to deploy the system
- Explain the fundamentals of Lighting and Optics

800.444.4831 • Serving Kansas, Missouri and Illinois • www.hteautomation.com
CONVEYORS & PARTS FEEDERS

Dorner  Conveyors for many manufacturing tasks including: Accumulation, Depositing & Rejects, Diverting & Sorting, Elevation Change & Line Egress, Indexing & Positioning, Inspection & Testing, Merging, Product Flow & Control, Product Handling Systems. Each of these functions could be accomplished according to standards for food, pharmaceuticals, or general industrial.

Asyril  Vibration feeders. Asyril adds platform structured surfaces and backlit surfaces together with industrial vision and precision robotic technology to deliver a system that operates at optimal speed, accuracy, and flexibility.

Epson  Vibration feeders with software integrated to Epson’s robot software.

MACHINE SAFETY & GUARDING


Balluff  Protecting people, machines and the workplace is critical, and as sensor and automation specialists Balluff does more than just strive to ensure that our sensors work properly. Balluff safety solutions for automation include products and components that help minimize the danger for worker and machine.

Hokuyo  Collision-avoidance sensors, safety laser and obstacle detection scanners, optical data transmission devices, laser rangefinders (LIDAR) and hot metal detectors.

Parco  T-Slotted Aluminum Extrusion, Structural Framing, Grooved or Smooth Profiles, Kits, Full Assemblies, 3D Designer

Wirecrafters  Machine Guarding Systems
MACHINE VISION

**Cognex** The most trusted name in machine vision helps manufacturers speed production, minimize defects, and reduce costs with 2D and 3D Machine Vision Systems. Cameras are available from 12MP high resolution models to simple sensors for inspection systems.

**Balluff** Premium sensors for a wide range of application requirements, from presence detection and position measurement to level detection and pressure, for general industrial use or for tough applications in critical environments.

**Baumer** Presence and distance sensors, rotary encoders, and angle measurement

**Tri-Tronics** High-speed, high-resolution fiber optic sensors, color sensors, general purpose optical sensors

ID MARKING, READING, & PARTS TRACEABILITY

**Cognex** Industrial, image-based barcode readers decode 1D and 2D codes, from printed labels to the hardest to read direct part mark (DPM) codes. Industry-leading read rates help reduce costs, optimize performance, increase throughput, and control traceability.

**Balluff** Balluff RFID systems are designed for the toughest environments and connect to almost any control network. Balluff can handle almost any ID application in industrial plants.

**Datalogic** A complete range of products and solutions based on Fiber Laser, Solid State and CO2 technology. Clear and permanent logos, 1D and 2D codes, serial numbers and dates on most industrial materials.

SMART SENSORS

**Balluff** Premium sensors for a wide range of application requirements, from presence detection and position measurement to level detection and pressure, for general industrial use or for tough applications in critical environments.

**Baumer** Presence and distance sensors, rotary encoders, and angle measurement

**Tri-Tronics** High-speed, high-resolution fiber optic sensors, color sensors, general purpose optical sensors

LIGHTING, LENSING, & FILTERING

**Moritex** Machine vision lenses and lighting systems

**Smart Vision Lights** Machine vision lighting and filters

**Navitar** Precision lenses for industrial vision applications

**Edmund Optics** Precision lenses for industrial vision

**Midwest Optics** Machine vision filters

**CCS Inc.** Machine vision lighting

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IloT CONNECTIVITY & IN-PANEL PRODUCTS

ABB Low Voltage Products  Contacts, Starters, Disconnects, and Fuses

Advantech  Industrial PC, WEB-OP, HMIs, Communications Gateways, Managed and Unmanaged Ethernet Switches

Balluff  Industrial Cordsets, Active (Network) and Passive Sensor Interface Blocks, Non-contact Power and Signal Transmission, Power Supplies

Murrelektronik  Industrial Cordsets and Connectors, Active (Network) and Passive Interface Blocks, Power Supplies and Conditioners, Panel Interfaces

MB Connect Line  Ideas and Solutions for Remote Maintenance and Monitoring

Wago  Din Rail Terminal Blocks with Cage Clamp® Technology, Field I/O Systems, Programmable Network Interfaces, Power Supplies

ELECTRICAL ENCLOSURES & STRUCTURAL FRAMING

Rittal Systems  Industrial Enclosures (Free-Standing Modular, Wall-Mount, Junction Box, Stainless Steel)

Parco  T-Slotted Aluminum Extrusion, Structural Framing, Grooved or Smooth Profiles, Kits, Full Assemblies, 3D Designer

ENCLOSURE CLIMATE CONTROLS

AUTOMATION & MOTION CONTROL

Mitsubishi PLC  Programmable Logic Controllers, Safety Controllers – Stand-Alone or Rack-Mounted

Mitsubishi HMI  OIT, Soft GOT, PC Software

Mitsubishi Servo  Servo Systems, Motion Controllers, Servo Motors, Linear Motors

Mitsubishi VFD  Variable Frequency Drives – Fractional HP – 1,000+ HP

Advantech  Rugged Industrial PCs, Touch Screens, Touch Screen Computers, Ethernet Switches, Network Interface Adapters

AMP (Applied Motion Products)  Stepper Motor Drives, Two-Phase Hybrid Step Motors, Encoder-Feedback Stepper Drives, Integrated Drives + Motors

Animatics  SmartMotors: All-in-One Motor/Control Systems. Advanced Communication and Motion in an All-in-One Package

Apex Dynamics  Precision Planetary Gear Heads, Fast, Affordable, Precision, Straight and Right-Angle

R+W Coupling Technology  Precision Servo Couplings, Mechanical Torque Limiters, High Stiffness Torque Tubes and Jack Shafts

Wago  Programmable I/O to Support All Major Network Interfaces, Industrial PCs

WorldWide Electric  Affordable AC Induction Motors, DC Motors

The HTE TECHTEAM is an engineering collaboration focused on delivering leading edge manufacturing solutions for maximizing factory throughput with the goal of increasing your global competitiveness.

OUR HTE TECHTEAM SERVICES

We provide you with comprehensive engineering skill sets and broad industry application experience earned over many years applying a broad range of technologies to industrial applications including:

ROBOTS
• Plant walk-through Audit to find “low hanging fruit/rapid ROI” applications
• Universal Robots Authorized Training Center
• Universal Robots 360° service program
• In-house proof of concept testing
• Custom end effector design & fabrication

INTEGRATION
• Coordination of turnkey robotics, machine vision, and/or product traceability solutions with local integrators

MACHINE VISION
• Cognex certified training
• Proof of concept testing

MACHINE AUTOMATION
• PLC training and hands-on programming
• Machine programming services

OEM 1st ARTICLE PROGRAM
• Cooperative 1st article OEM design / build / program / test

PANEL FABRICATION
• Custom panel test and assembly
SUPPLIERS

ABB Low Voltage
ABB Safety
Accu-Tech USA
Advanced Illumination
Advantech
Animatics
Apex Dynamics
Applied Motion Products
Asyrl
ATI Industrial Automation
Balluff Corporation
Baumer
CCS Inc.
Cognex Corporation
Coval Vacuum Technologies
DataLogic
Dorner Conveyors
Edmund Optics
Epson America
Fraba
Heidenhain
Hokuyo
IAI (Intelligent Actuator)
Intermec
MB Connect Line
Millibar
MiR Robots
Mitsubishi Electric Automation
Moritex
Murrelektronik
Nabtesco
Navitar
Nook
OnRobot
Parco
Reiku
Rittal
Robotiq
ROEQ
R+W Coupling Technology
Smart Vision Lights
Spectrum Illumination
Swivellink
Tamron
Tolomatic
Tri-Tronics
Universal Robots
Vectis Automation
Wago
Wirecrafters
WorldWide Electric

HTE Automation is a full-service supplier of product- and service-based manufacturing automation solutions throughout Kansas, Missouri, and Illinois (as shown).

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