

TECHNICAL NOTES

VASCI001



Product and Services



MandateIP® Real-Time Optimization Solutions

VAS provides real-time optimization solutions that deliver both greater productivity and greater capacity. These systems are custom configured to exactly meet operational and informational requirements. VAS provides service to both identify the opportunity and quantify the benefits of workflow optimization. Workflow optimization reduces peak demands and opens production bottlenecks. VAS solutions can normalize work and allowing individual system elements to work more asynchronously. In practice such solutions have proven to increase capacity and productivity by greater than 20% in systems that used best-of-breed highly effective static optimization.

SOFT™ High Productivity Order Fulfillment Systems

VAS specializes in low capital expenditure piece picking (split case) systems, and we are experts in batch pick operations, both for new systems and for upgrading existing paper-based systems. VAS implemented the largest known batch picking system (2600 simultaneous orders on a ½ mile long tilt tray sorter), Bombay sorters, RF directed picking, pick and pack to light systems, full-case pick and palletization systems, man-to-goods and goods-to-man systems order selection systems.

Smart Order Fulfillment Technology or SOFT™ includes complete turnkey installations of high productivity picking and packing systems. SOFT systems can be integrated into any legacy information system or any WMS. One of our integration options requires absolutely no modifications to the host system software. SOFT is applicable to all pick and pack technologies and allows multiple technologies to be seamlessly coupled in an operation.

SOFT Systems are normally comprised of:

- SOFT Master Administrator (SMA)
 - Computing Hardware
 - Host interface
 - Master Communication Network

- SOFT Site Software
- One or more SOFT Order Fulfillment Workstations
 - Computing and SMA communication hardware
 - User interface equipment
 - Order Fulfillment carts, modules, and automated workstations
 - SOFT Workstation Software
- One or more process control and monitoring workstations
 - Computing and SMA communication hardware
 - SOFT Administration Software

Mandate® Adaptive Warehouse Management System (AWMS™) - upon which SOFT is based - provides a foundation of dynamic real-time optimization features as well as the adaptive WMS features that allow SOFT to organize the fulfillment process to peak efficiency and maximum productivity.

We offer a full line of SOFT-based Order Fulfillment modules and workstations:

- Fork Mounted Front or Back Load Order Fulfillment Modules
- Fork Mounted Gather and Drop Modules
- Purpose built Carousel and Stacker batch pick workstations
- Pick from pallet, pick from rack (pick to light) workstations
- Audit/QA, shipping and zone transfer workstations
- Induction workstations for tilt-tray and other order fulfillment sorters

Mandate® Adaptive WMS (AWMS)™

The Mandate® AWMS is a high end WMS for operations requiring features that are not available in other WMS packages. Due to its adaptive nature and the great diversity in the handling rules necessary to “dynamically optimize” an operation, Mandate® is the WMS

of choice for systems requiring some very specialized features, but not as suitable for a low cost more generic WMS. Mandate® AWMS features are also ideal for SOFT™ systems that require a limited set of WMS features such as inventory management and EDI interfaces. The Mandate® AWMS is also the perfect selection for systems requiring the integration of many separate sites.

Mandate® Specialized Equipment Controls

Vargo provides controls systems for specialized equipment. The control systems are based on off the shelf Intel® compatible computing hardware. The control systems support distributed I/O sub-systems, allowing less expensive installation and minimized wiring requirements. Analog, digital, synchro, servo, tachometer, closed loop, PID, SSI, VFC's, VFD's, field busses of all types, industrial ethernet, sensors and actuators of all types, electrical, pneumatic, and hydraulic are all supported. Vargo controls equipment that manipulates items from priceless aircraft to baby food bottles. Normally stateless designs are used which allows operational recovery under any conditions.

Custom Specialized Automated Workstations

Vargo provides purpose-built automated workstations and productivity enhancement tools and equipment. Examples of equipment or workstations would be devices that may require

specialized manipulators, conveyor to workstation interfaces, pushers, pullers, rotators, carton and tote queues, stepper articulators, re-sequencers, and specialized sortation devices. Built in identification devices may also be required such as built in scanners or RFID devices. The equipment may be either mobile or stationary. Mobile equipment can be specified to include power sources and power conversion equipment to support attached devices and equipment. Actuators, articulators, sensors and control systems may be provided. Actuation means may be any combination of electrical (both low and high voltage), pneumatic and hydraulic. VAS is expert in both ergonomic and ADA requirements.

Operations Engineering, Analysis, Design, Modeling and Support Services

VAS Engineering Group has designed both small and large distribution centers with capital investments ranging from under a million dollars to hundreds of millions of dollars. These facilities are currently responsible for delivering billions of dollars of product annually. VAS engineering services include observation and analysis, design and modeling.

Vargo provides a range of support service agreements for any of our installations. We also provide training for customers that wish to do internal support. Training and support agreements are available for any period of time.