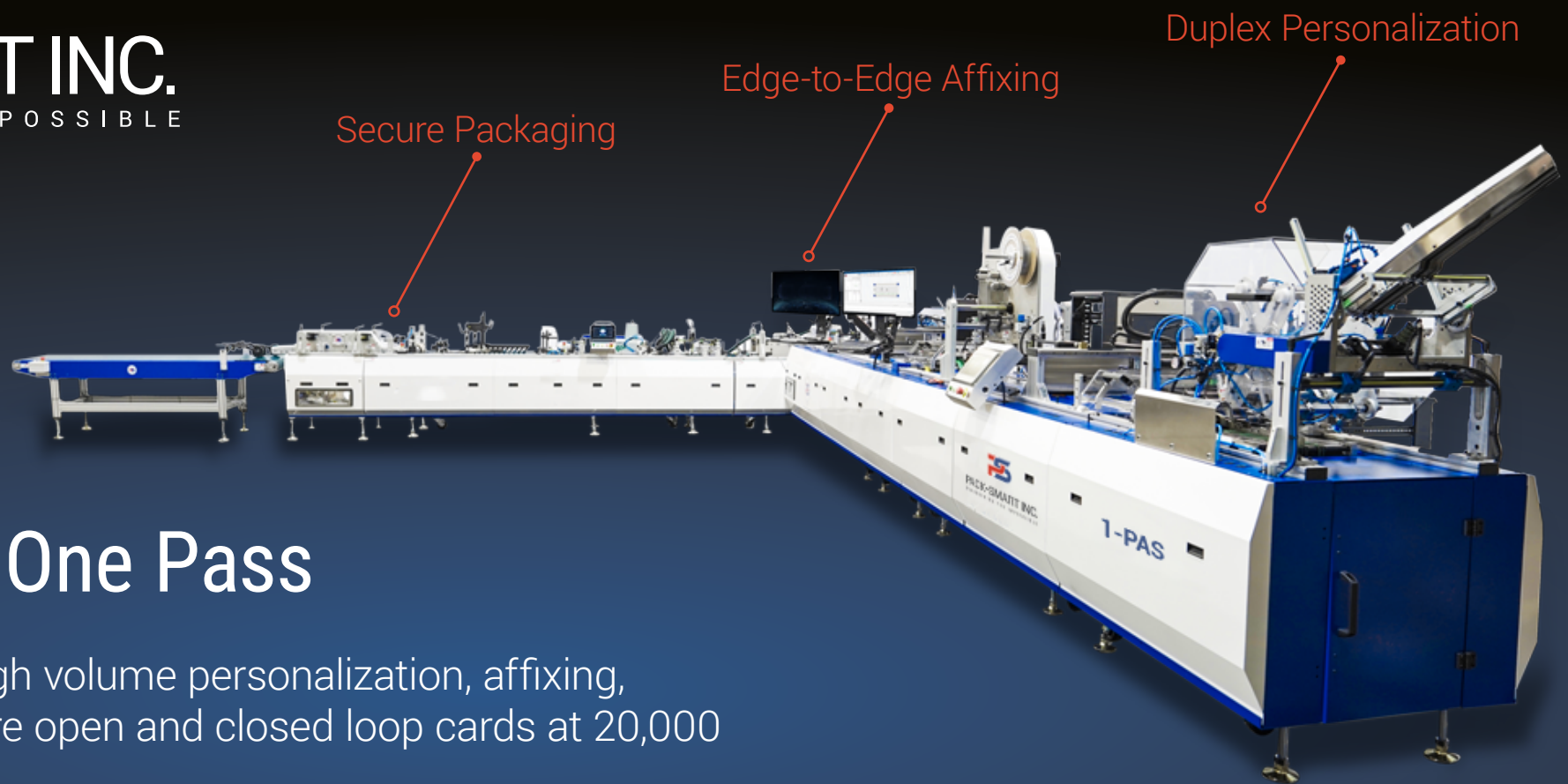


# 1-PAS

## Card To Bundle In One Pass

World's first inline solution for high volume personalization, affixing, packaging and pack-out of secure open and closed loop cards at 20,000



## OVERVIEW



### Lowest Cost Per Piece Without Compromising Quality

Producing 100 % tamper proof packaging has never been easier. With continuous compression technology, the seal time is reduced to a half second allowing for 10 times the throughput compared to current heat seal processes. Governed by Delta-X software, 1-PAS allows real-time control of production data while mitigating quality assurance risks with End-to-End Reporting.



### Tamper

Evident Packaging

### Speeds

Up To 20,000 PPH

### End-to-End

Reporting

## BENEFITS



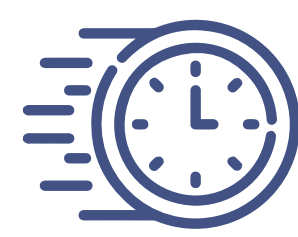
### REDUCE COST

- ✓ Reduced Number of Operators
- ✓ Remove Requirements for Heat Seal



### GROW YOUR BUSINESS

- ✓ Flexibility for Unique Product Workflows
- ✓ 600 dpi UV DOD Personalization
- ✓ ±0.4 mm Placement Accuracy



### MINIMIZE DOWNTIME

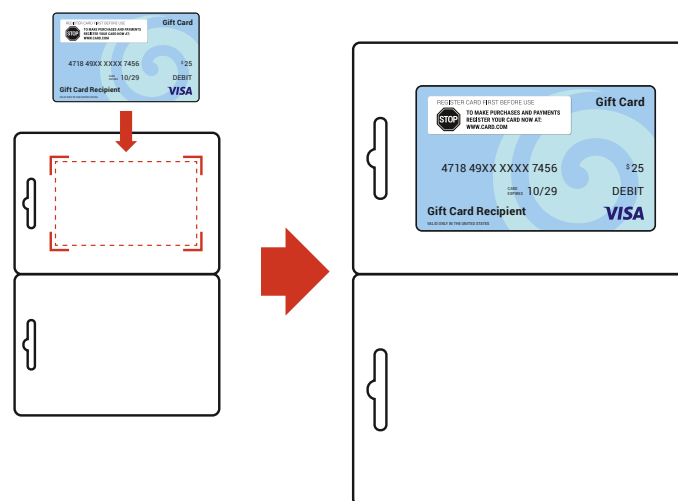
- ✓ Quick Product Changeover
- ✓ End-to-End Tracking and Reporting
- ✓ In-Line Automated Piece Remakes

## INTERACTIVE PROCESS FLOW

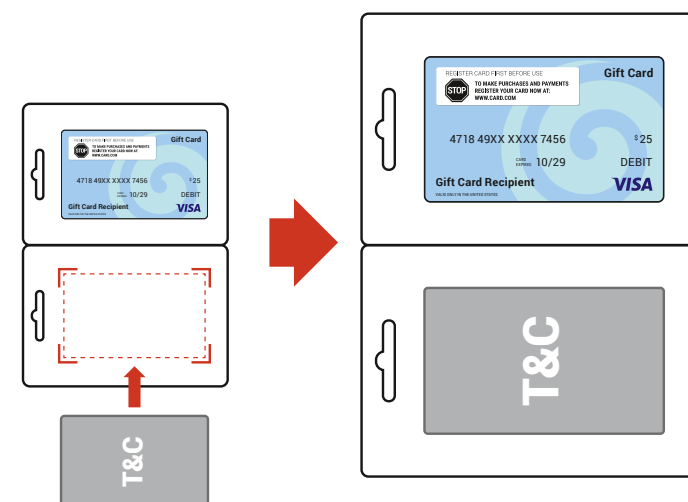
### 1 DUPLEX CARD PERSONALIZATION



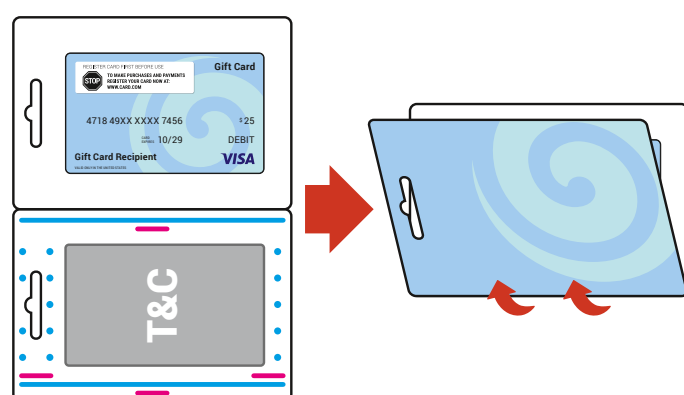
### 2 EDGE TO EDGE CARRIER AFFIXING



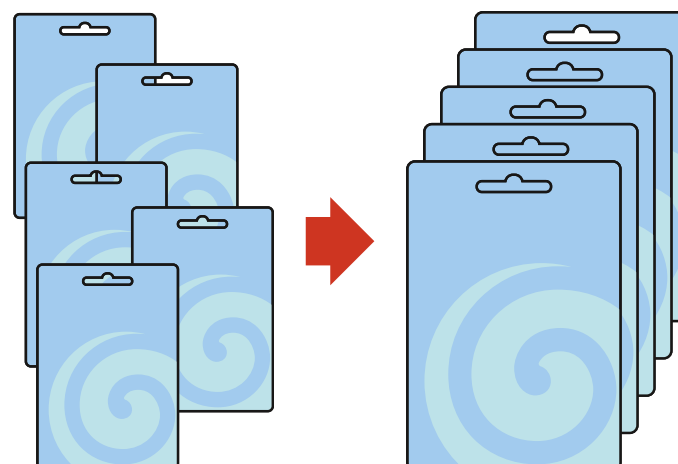
### 3 INSERTS AND T&C'S ATTACHMENT



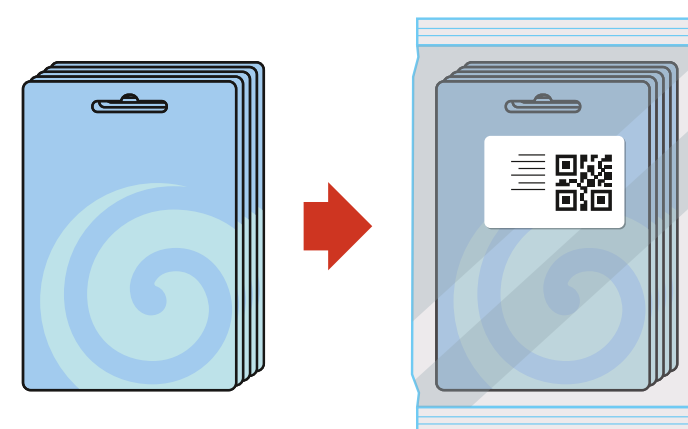
### 4 SECURE GLUING AND FOLDING



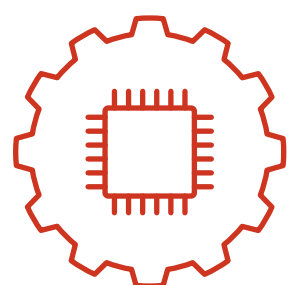
### 5 SEQUENTIAL BATCHING AND BUNDLING



### 6 PACK-OUT AND LABELLING



## PERFORMANCE AND FEATURES



### GENERAL

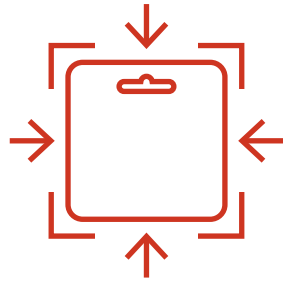
- Inline card personalization, carrier affixing, secure packaging and pack-out speeds up to 20,000 PPH.
- Duplex card personalization speeds up to 35,000 PPH.
- Drop-on-demand UV printing at 600 dpi (3.5 pL drop size).
- Edge-to-edge affixing accuracy of  $\pm 0.5$  mm in portrait and landscape orientation.
- Tamper evident package security with hybrid adhesive seal and extended compression.
- Batching, flow-wrapping, bundle labeling, and case and pallet manifest.
- Real-time data-matching, tracking, validation and end-to-end reporting.
- Automated rejected card reissue with on-the-fly bundle remake, keeping the production in sequence without stopping.
- 100 % servo driven with digital brushless servo motors.
- Labor: 1 operator + 2 person reloading + 1-2 people on delivery.
- Virtual machine platform and system diagnostics.

## PERFORMANCE AND FEATURES



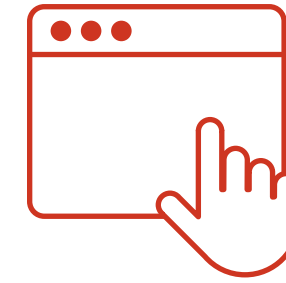
### PERSONALIZATION

- **DOD Inkjet Printing** — high resolution drop-on-demand variable printing with 600 dpi at speeds up to 500 ft./min. Field replaceable Piezo print head with 3.5 pL drop volume and 75 mm print width (1D & 2D barcode, SIM ICCID, redemption code, card numbers, logos & graphics).
- **Labelling** — apply all varieties of pressure sensitive labels at line speeds up to 660 ft./min (400 labels per minute) and placement accuracy of  $\pm 0.4$  mm. (scratch-off, activation, magnetic stripe, RFID tag application) Minimize reloading frequency and increase productivity with up to 560 mm roll diameter.
- **Magstripe Encoding** — reverse, condensed, JIS encoding, with Hi-Co/Lo-Co coercivity selection at speeds of 35,000 cards per hour. Head lifespan over 100 million cycles.
- **UV Curing** — single pass curing with high powered LED UV lamp. Achieve 85 % increase in energy efficiency compared to standard arc or microwave technologies.
- **Plasma Treatment** — rapidly micro cleaning card surfaces and raising surface energy to improve wettability and adhesion of glue, inks, and coatings. Adjustable maximum power of 500 W with 50 mm performance width.
- **Dual-Belt Vacuum Transport** — independent personalization belts for ease of cleaning and prevention of premature cracking.
- **Turnover and Re-registration** — inline duplex personalization for improved productivity with modular design for quick changeover to straight-through card transport.
- **Barcode Grading** — ensure production of high-quality products through verification of scan ability and compliance with barcode verification standards. Instantly identify B and C grade barcodes to reduce defect rates and associated costs from wasted material.
- Ability to run personalization section offline.



### AFFIXING & PACKAGING

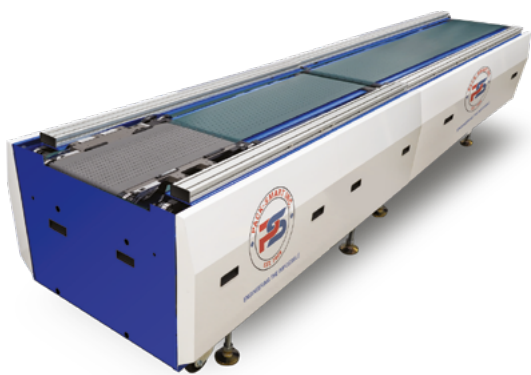
- **Fugitive Glue** — attach card to carriers with low tack glue dots for reduced consumable cost.
- **PSA Adhesive Label** — attach card to carriers with pressure sensitive labels.
- **Hot Glue** — ensure immediate seal bond with hot melt glue systems.
- **Cold Glue** — tamper evident seal is accomplished with fiber crosslinking cold glue which replaces legacy pressure seal applications.
- **Extended Compression** — ensure glue is fully cured and performing at speeds 10x faster than legacy pressure seal technology.
- **Edge-to-edge Card Affixing** — modular alignment technology allows transferring cards and attaching to carriers within  $\pm 0.020$ " accuracy.
- **Folding in All Directions** — with flexible folding options, including front, back, and plow fold, accommodate any type of form packaging factors with quick changeover times.
- **Carrier Printing and Personalization** — print an activation barcode inline or apply a magnetic stripe label and match the card activation data.
- **Batching and Bundling** — file controlled dynamic batching allows for predetermined sequential bundling.
- **Shrink or Flow Wrapping** — with options for bundle packaging ensure your end products meet the customer requirements.
- **Labelling** — track piece level sequence and provide an aggregated label for downstream distribution.
- **Pallet Manifest** — provide a complete card-to-pallet aggregation reporting.



### SOFTWARE

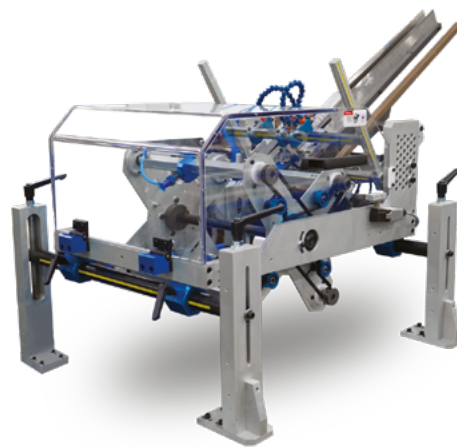
- Save recipes for module configurations to improve changeover and setup time.
- Multi-level customizable user access for every single functionality of the software.
- Data logger to create report files for details of every product exiting the final conveyor.
- Define limit for sequential errors on sensors/data acquisition units checking the product status. Tracking system will trigger a fault when maximum allowed consecutive errors occur.
- Match data between perso line and affixing line cameras to ensure accurate sequential product feed.
- Log acquired data to database file or verify accuracy of scanned data by comparison to database file.
- Connect with centralized camera control unit for shared interface and communication with all cameras.
- Tag non-conforming products after data matching or QC inspection for signaling to downstream modules.
- Generate remake database for remaking diverted products while in production (on the fly reproduction) or after the current job has finished (end of job reproduction).
- Control batching rules for conditional batching based on tagged or remade products.
- Track and signal divert for compensating batch counts.

### INCLUDED TECHNOLOGIES



**Vacuum Transfer**  
VADB250

Independent personalization belts for ease of cleaning and prevention of premature cracking.



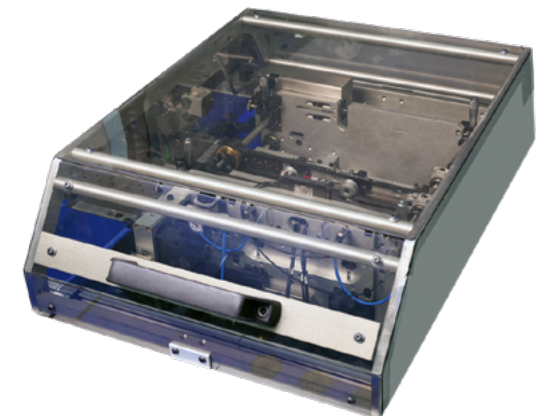
**Rotary Pick and Place**  
RP300

Smooth card feeding with 0.02" placement accuracy. Minimize reload intervals with optional autoloader for maximum productivity.



**Surface Treatment**  
SP50

Rapidly micro cleaning card surfaces and raising surface energy to improve wettability and adhesion of glue, inks, and coatings. Adjustable maximum power of 500 W with 50 mm performance width.



**Magstripe Encoding**  
MSE1

Reverse, condensed, JIS encoding, with Hi-Co/Lo-Co coercivity selection at speeds of 35,000 cards per hour. Head lifespan over 100 million cycles.



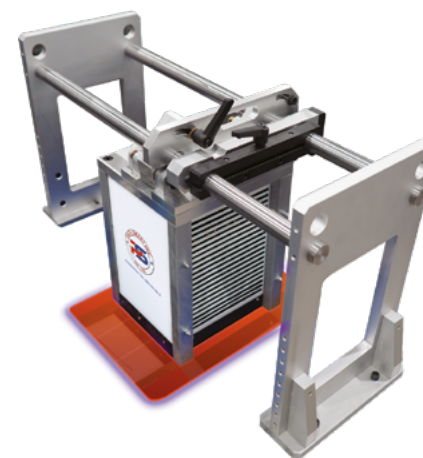
**Labelling**  
HSL60

Apply all varieties of pressure sensitive labels at line speeds up to 660 ft./min (400 labels per minute) and placement accuracy of  $\pm 0.4$  mm. Minimize reloading frequency and increase productivity with up to 560 mm roll diameter.



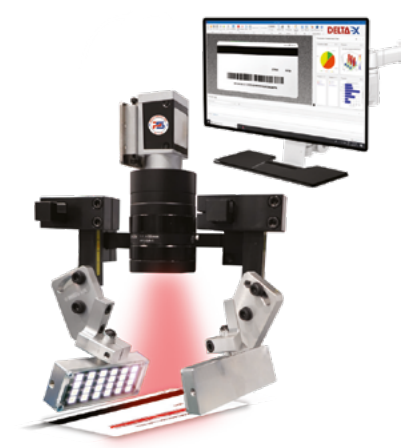
**DOD Inkjet Printing**  
SJ75

High resolution drop-on-demand variable printing with 600 dpi at speeds up to 500 ft./min. Field replaceable Piezo print head with 3.5 pL drop volume and 75 mm print width.



**LED UV Curing**  
UVL7550

Single pass curing with high powered LED UV lamp. Achieve 85 % increase in energy efficiency compared to standard arc or microwave technologies.



**Vision Camera Inspection**  
VSC1000

Real time vision scan with speeds of 600 ft./min with 2 ms response time. High accuracy inspection, data capture, and codification for a wide range of applications.



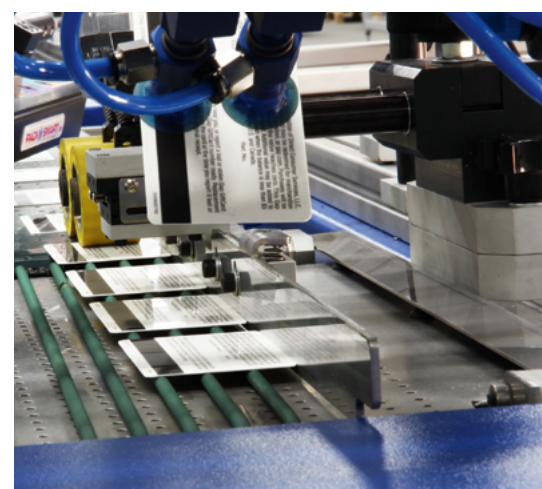
**Real-Time Data Tracking**  
Delta-X Controller

Real-time data embedding, validation, reconciliation, and reporting at speeds up to 60,000 PPH. Support up to 64 I/O devices with modular and full API connection to ERP or other databases. Supports just-in-time aggregated label printing and has advanced architecture of data tracking and reporting.



**Quality Assurance**  
DV500

Maintain production integrity by diverting non-conforming products in line. Reduce manpower in manual handling and quality control processes with double-divert for on-the-fly card reject and remake.



**Registration & Turnover**  
SR250 & T0250

Register and align products with  $\pm 0.4$  mm accuracy. Enable inline duplex personalization for improved productivity with modular design for quick changeover to straight-through card transport.



**Barcode Grading**  
BSG1000

Ensure production of high quality products through verification of scannability and compliance with barcode verification standards. Instantly identify B and C grade barcodes to reduce defect rates and associated costs from wasted material.