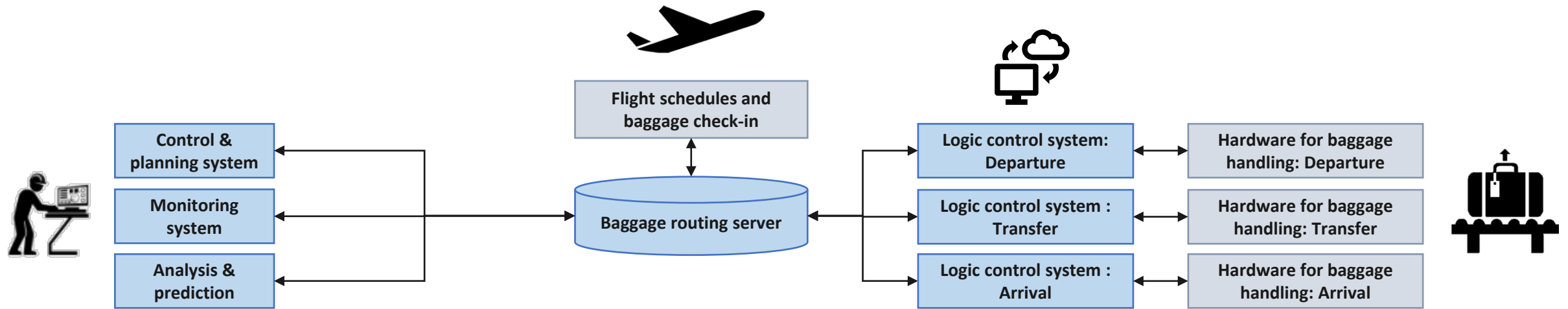




BRAINS®

(BAGGAGE ROUTING AND INFORMATION SYSTEM)

Key BRAINS[®] modules from high level perspective



- Tratec delivers modules for planning, monitoring and analysis
- Airport control personnel can access these modules through simple GUI interfaces

- The baggage routing and sorting server is the “Heart and Brain” of the system
- Receives input from the airport controller and 3rd party information systems

- Industrial PLC's controls all equipment.

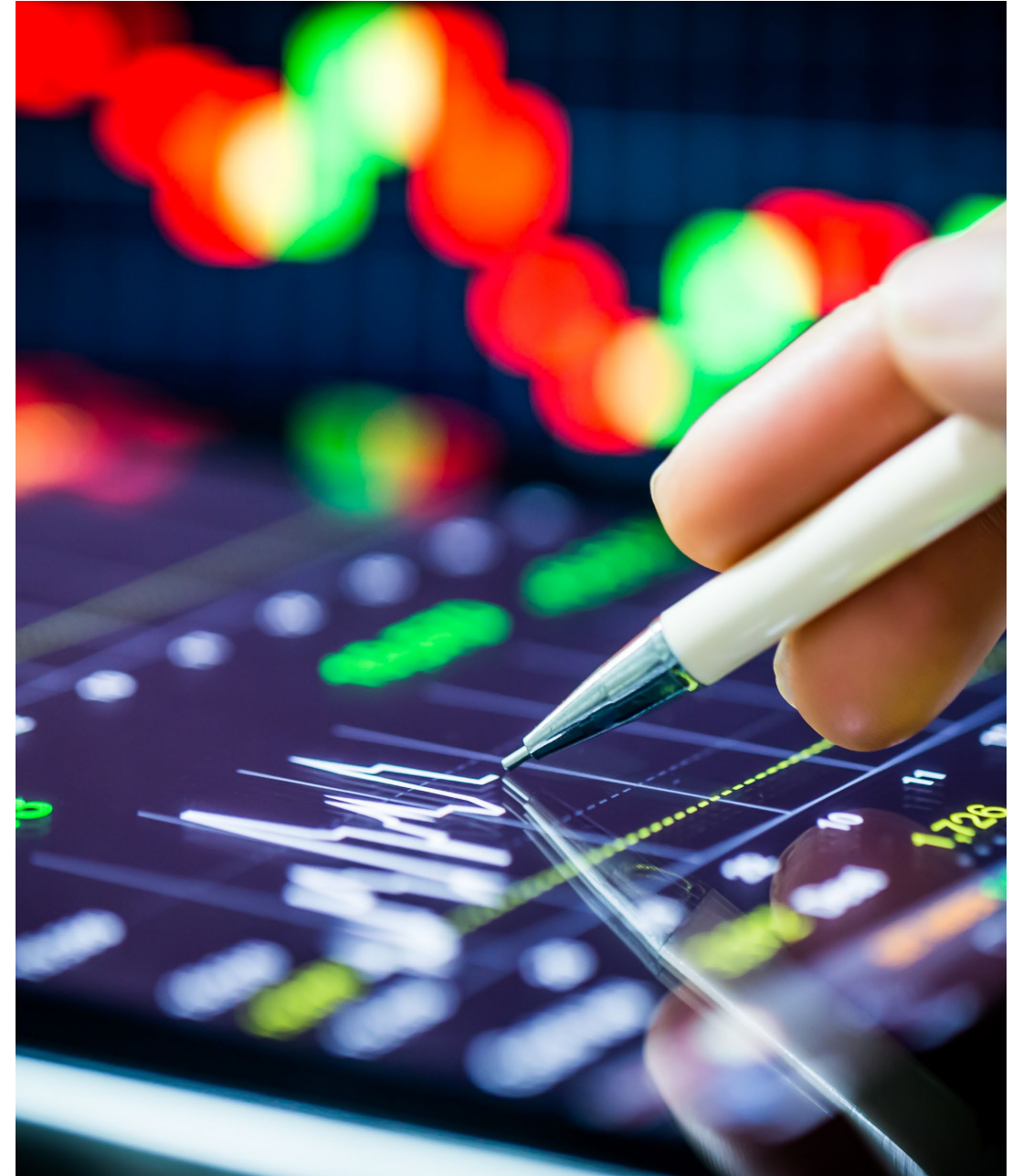
- Tratec delivers all electrical and mechanical equipment necessary for a complete BHS.



**OVERVIEW OF MODULES AND
FUNCTIONALITY IN THE BRAINS®
SOLUTION SUITE**

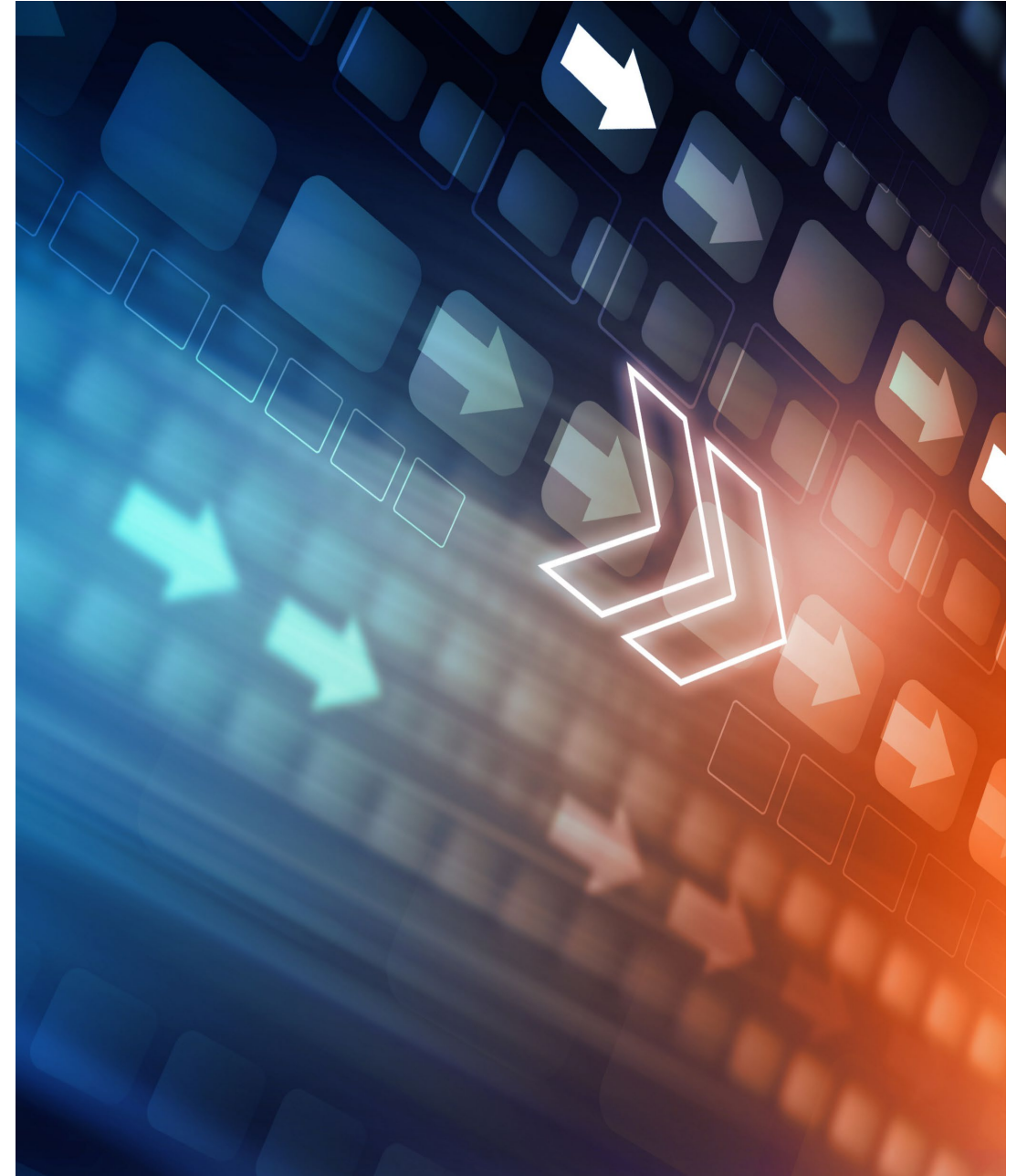
New system architecture

- Built on modern platform, including self contained (Dockerized) services for simpler development, deployment and operations
- Rule engine
- Message Bus



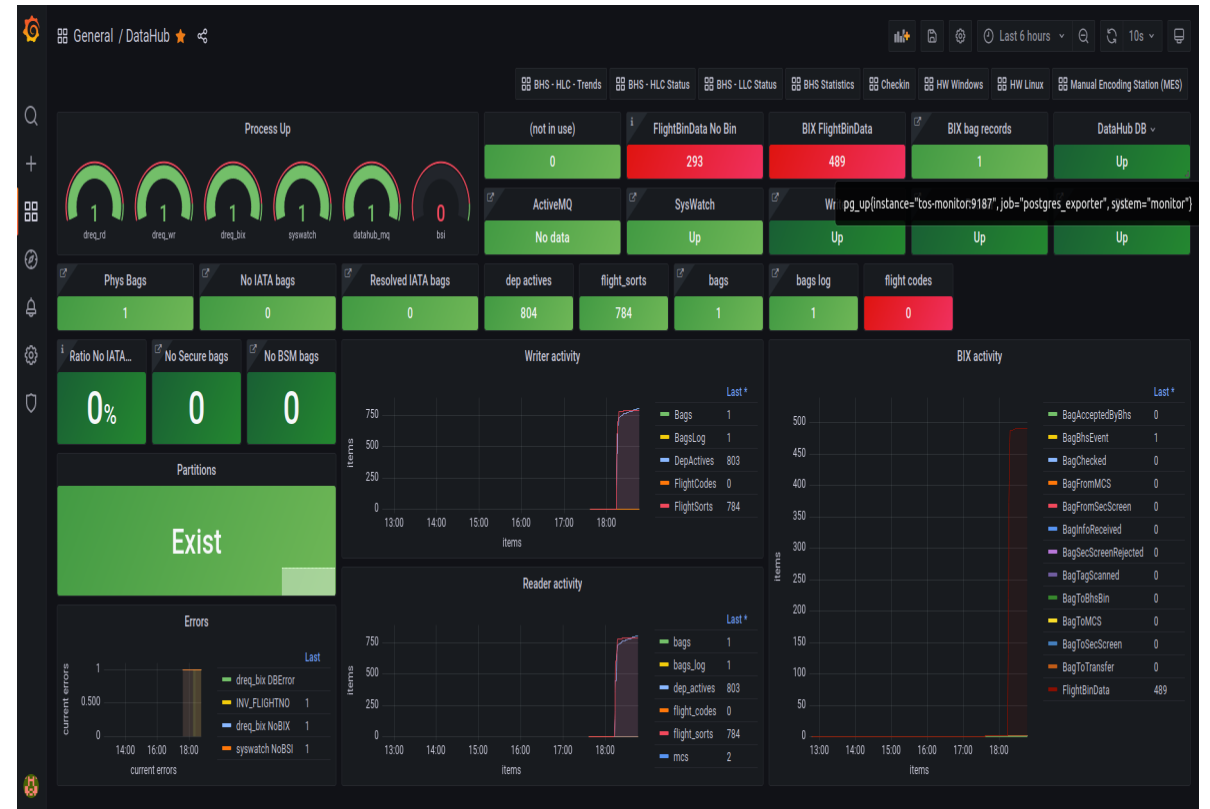
Big Data platform

- Advanced database solution designed for processing real time BHS events and relaying messages
- Data source for real time and historical monitoring, reporting, statistics and prediction
- Important backbone for enabling Brains BHS as an fully compliant Industry 4.0 solution



Monitoring

- Real time BHS process monitoring
- Realtime Bag Flow statistics
- Alerts using email/SMS



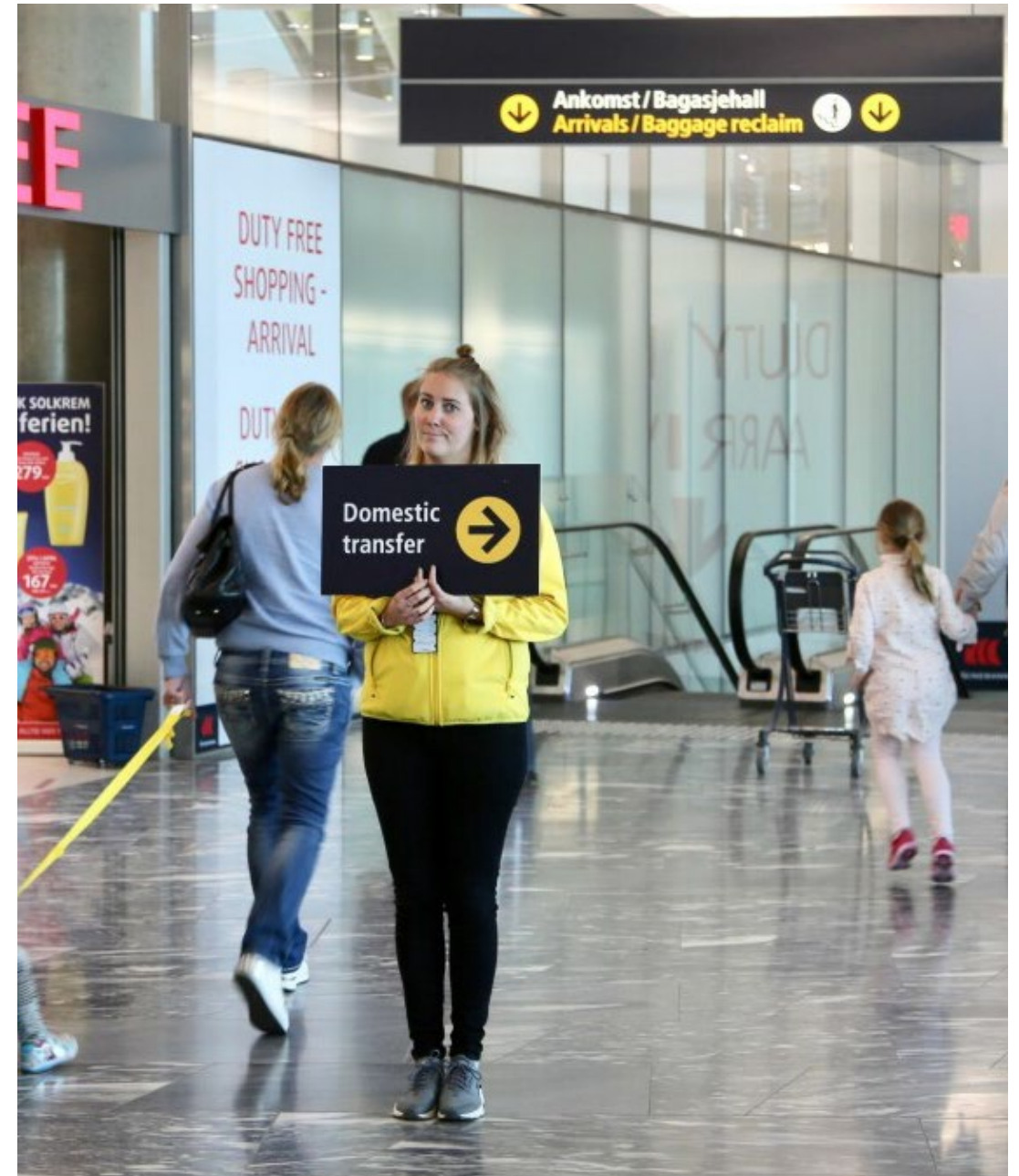
Analytics

- Statistics
 - Key BHS Bag Flow and Events KPIs
 - System Processes
- Predictions
 - BagFlow and Events
 - System Processes
- Utilizing the Bigdata platform data source, advanced statistics and artificial intelligence



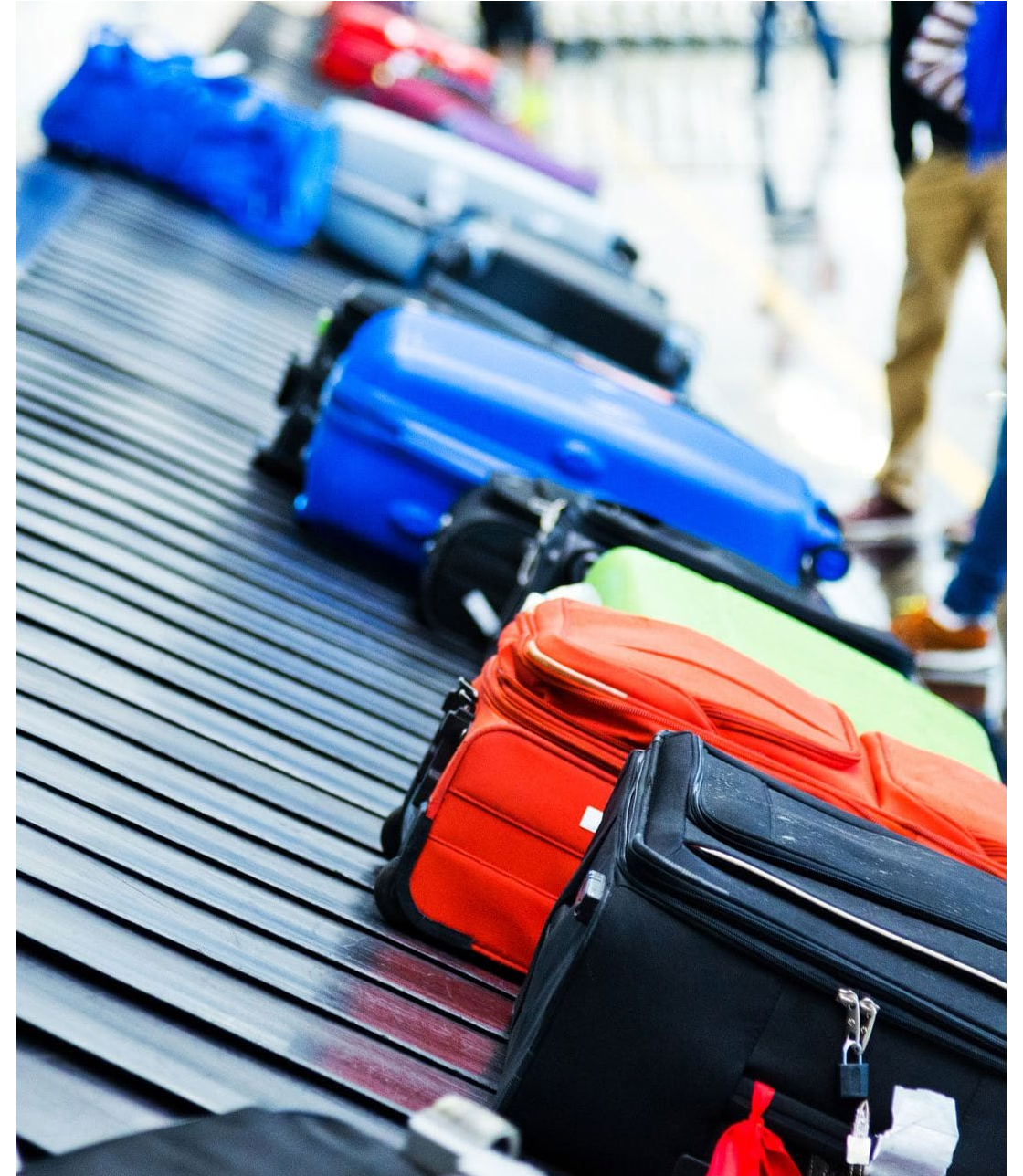
Domestic transfer

- System for transferring bags from international to domestic flights
- Includes integration towards multiple x-ray machines, and automatic routing to customs when requested
- Integration with Airport, BHS and Customs



Automatic arrival planning

- Optimizing airport PAX and Baggage Flow
- Allocate Loader Stations for flights
- Allocate Arrival Carousels for flights
- Optimized plan based on arrival flight schedule, delays, planned stand, bags on board, as well as PAX on flight.





FUTURE MODULES IN THE BRAINS®
SOLUTION SUITE

ABAS

- Automated Baggage Arrival Scanning (ABAS) using OCR, RFID, advanced image recognition software
- Bag Context Aware
- The solution utilize standard IP cameras in addition to traditional Bag ID scanners

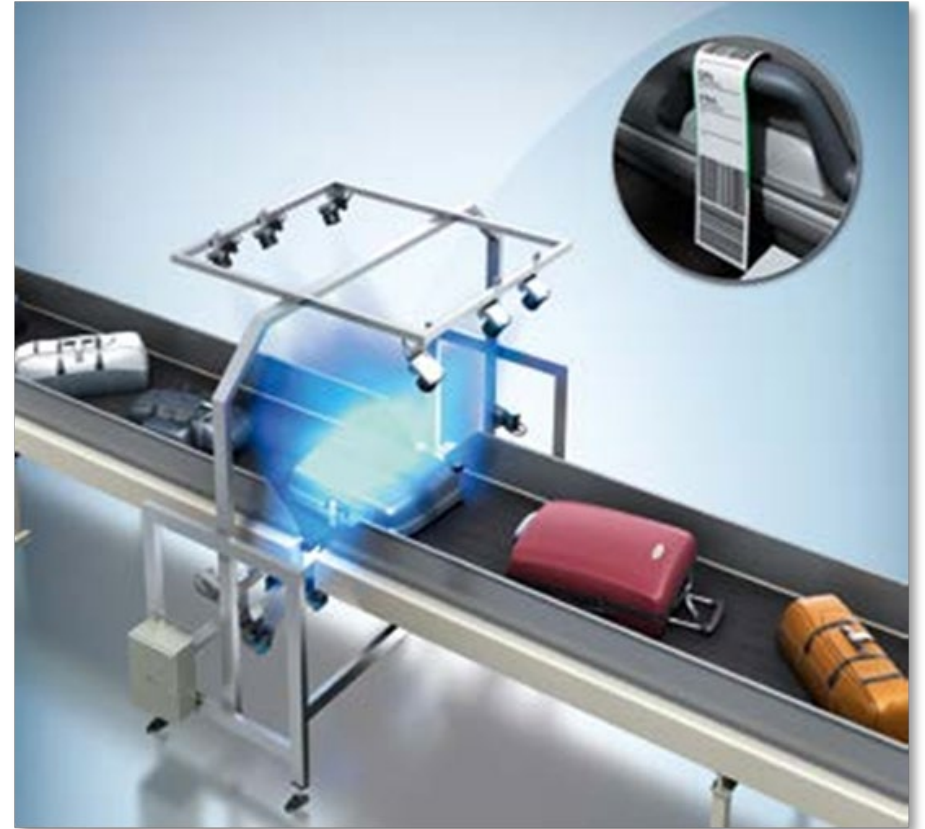
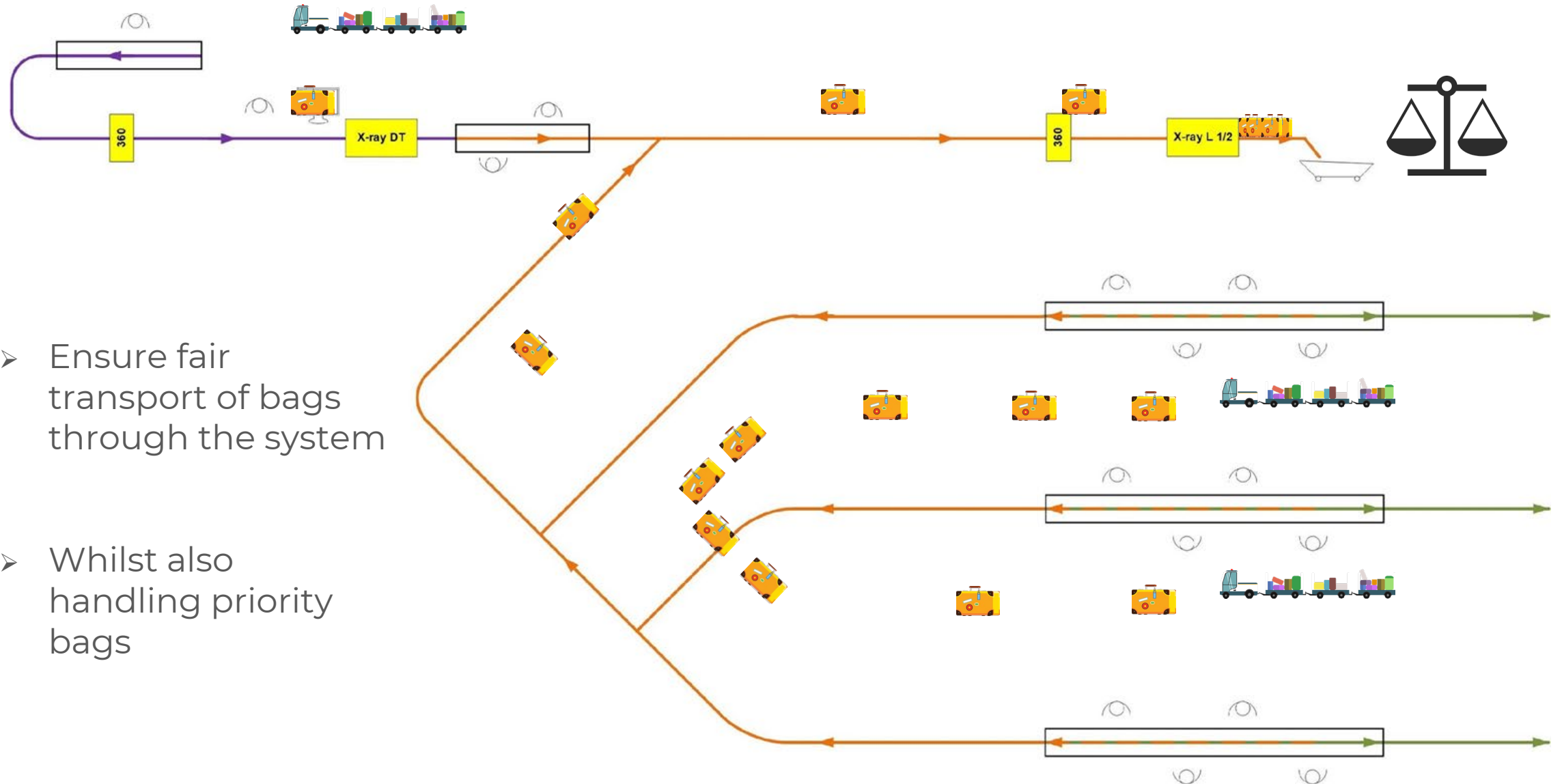


Photo: SICK

Bag Routing Optimization



➤ Ensure fair transport of bags through the system

➤ Whilst also handling priority bags



ADVANCED AUTOMATION SOLUTIONS FOR
LOGISTICS AND BAGGAGE HANDLING