

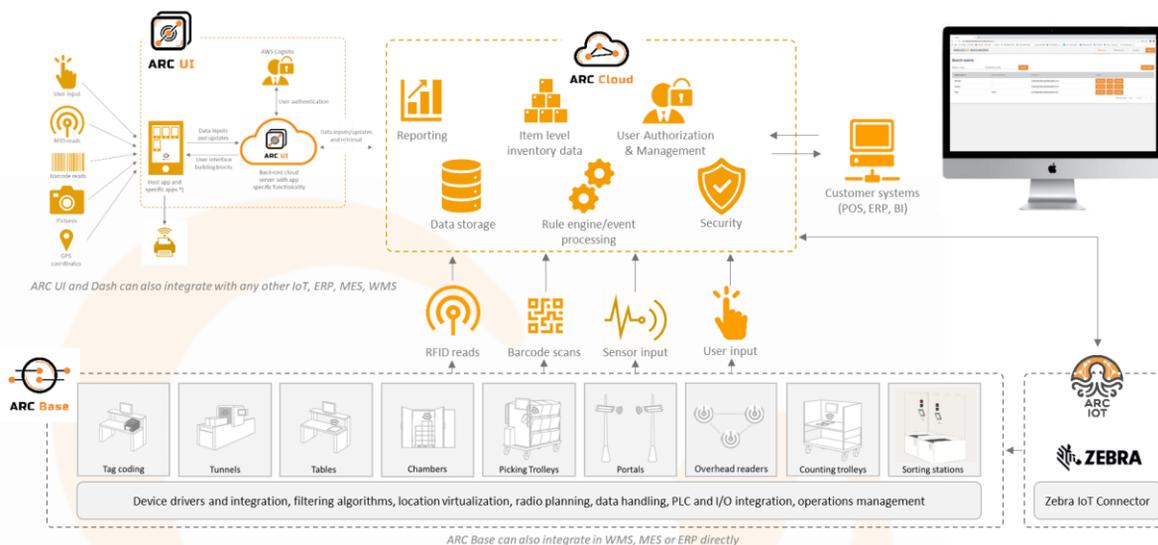
# ARC Suite for Supply Chain operations

## ARC Suite for RFID enabled retail operations

ARC Suite is Mieloo & Alexander’s suite of versatile, scalable and enterprise ready RFID applications for RFID and AutoID enabled warehouse logistics processes, RTI and asset management operations, and production logistics environments.

## ARC Suite architecture

The chart below shows the architecture of ARC Suite for AutoID/RFID enabled Supply Chain operations, that includes ARC Base, ARC IoT, ARC Cloud and ARC UI:



## ARC Base

ARC Base is M&A’s versatile, enterprise ready, hardware agnostic RFID/AutoID middleware for RFID and vision-based data collection with reader drivers for more than 10 RFID OEM brands incl. Zebra, Impinj, Keonn, Kathrein, Checkpoint and Nedap, but also integrates vision sensors from Zebra, Datalogic, Keyence and Cognex as well as advanced PLC integration functionality.

ARC Base enables monitoring and remote device management, advanced AI/ML based RFID data filtering algorithms, a low-level business rule engine and versatile integration module based on the OSGi framework, for deployments with direct integration in existing WMS, MES or ERP systems.

Next to the general device management layer, ARC Base includes RFID “validation and checking” apps and functionality, like RFID packing table, RFID tunnel, RFID chamber, RFID picking trolley, etc.

## ARC Base

ARC IoT is M&A’s highly scalable cloud-based device management, monitoring and remote support solution for straight forward presence detection RFID readpoints and off-load data of captured data to any end-point.

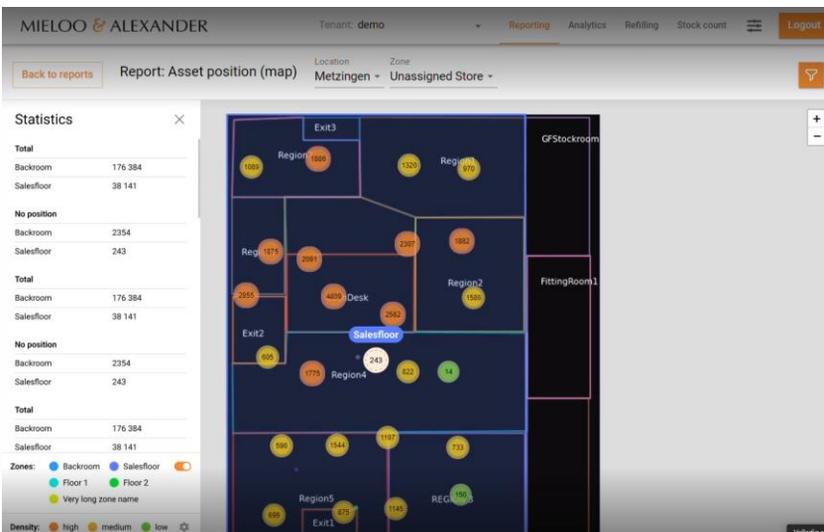


## ARC Cloud

ARC Cloud is M&A's IoT platform that processes and stores data ingested from the ARC Base middleware and/or client systems, applies business rules and provides geo-spatial item level reporting in-time capability and dashboards.

### Key functionalities:

- Real-time item level inventory and location management.
- Track & trace data repositories and RTI/client balance management.
- Location and status business rule engines and alert and message triggering and reporting.
- Time series and location maps reporting and dashboards.
- Versatile integration into any WMS, ERP, POS, Service or Asset management system.



**Hardware agnostic RFID/AutoID cloud and on prem middleware**

**Data collection and advanced data processing**

**All-round, scalable IoT SaaS platform for supply chain operations**

**Big data and flexible rules engine**

**User configurable reporting**

**Feature rich mobile & browser-based UI builder**

**Back-end configurable and easy to deploy**

## ARC UI

ARC UI is M&A's generic framework for rapid development of dynamic user interfaces for stateless handheld and desktop apps. The ARC UI react native host app is deployed on Android devices like smartphones or industrial touchscreen mobile (RFID) devices or on a desktop or touchpanel PC. The mobile or desktop apps themselves are implemented on the serverless back-end hosted at AWS and presented through the host app, that is feature rich with for example OATH2 authentication, user/group authorizations, camera, GPS, RFID, wireless printing, barcode scanner integration up to integrated tutorials. ARC UI is either integrating with ARC Cloud, or with the existing ERP, WMS, MES or other business systems. Some examples of mobile apps:

