

3M New Technology Library Automation Solutions



Create a more
human library

**American International Consortium of
Academic Libraries 5th Annual Meeting,
American University in Bulgaria,
May 25-28, 2008**

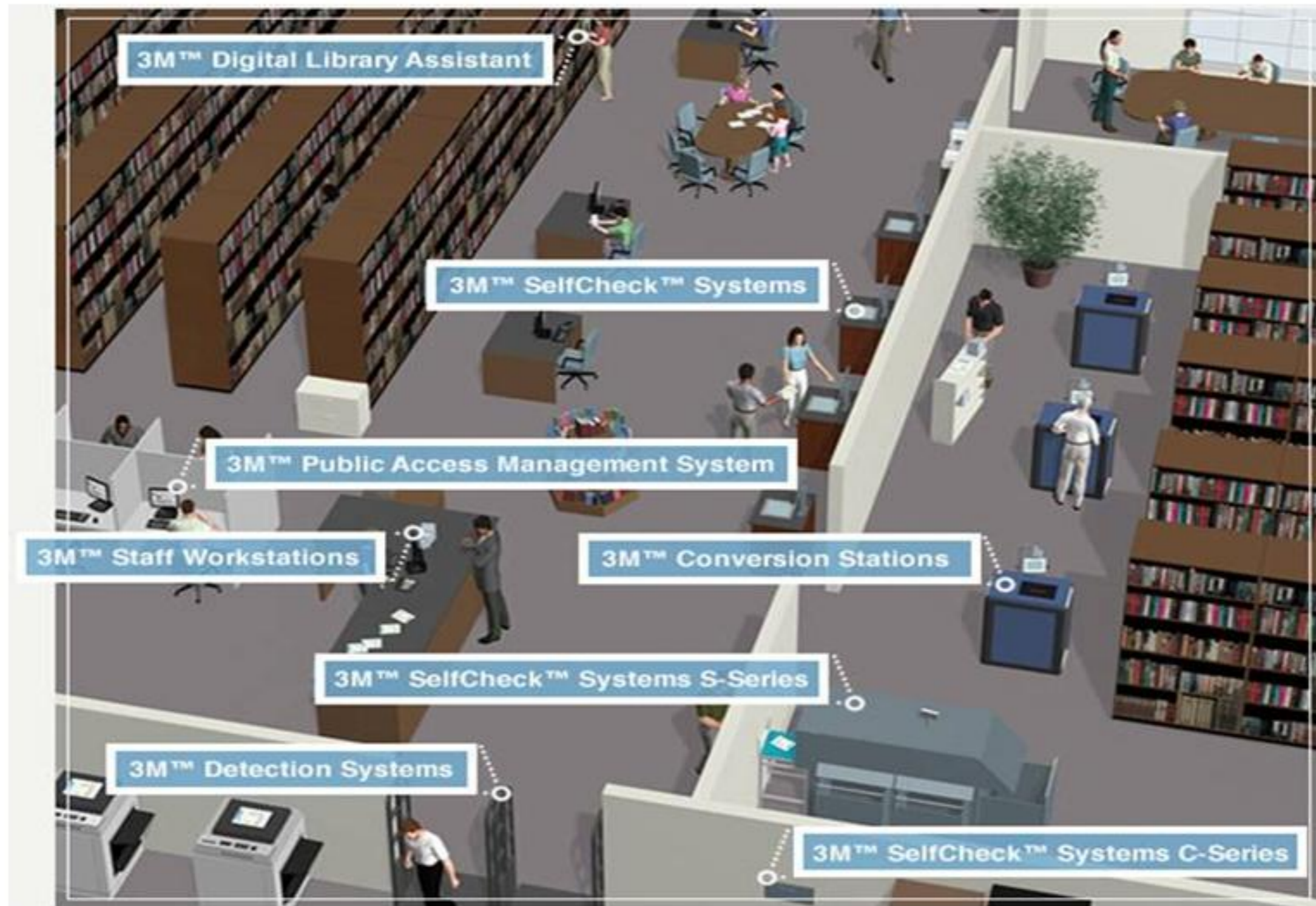


3M Library Systems - Introduction

- 3M supplying Library Systems for over 35years.
 - *Primarily delivery security systems.*
- Over 15,000 satisfied library customers across Europe.
- We understand modern challenges facing libraries.
 - *Increasing demands with limited resources.*
- 3M invested R&D resources to develop leading edge RFID library automation solutions.

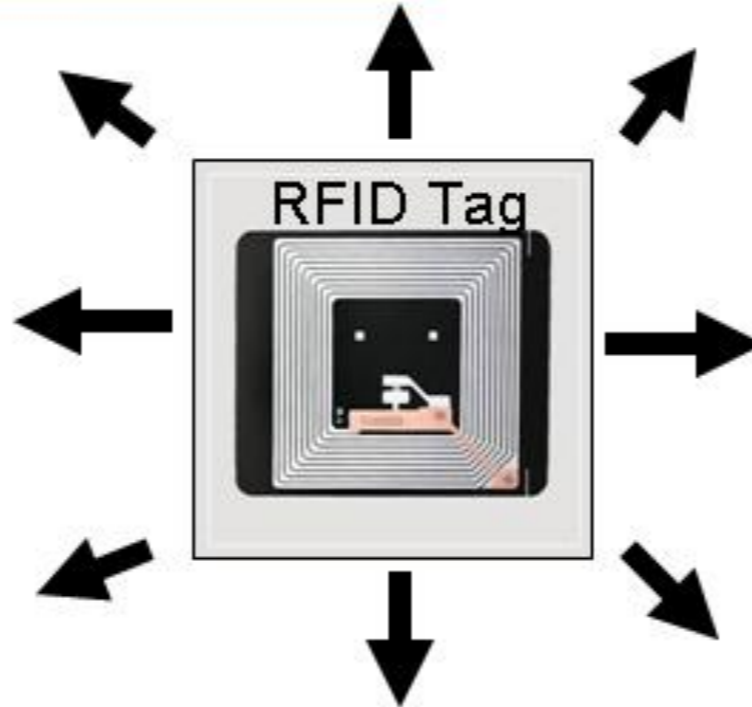


3M RFID Library Solutions



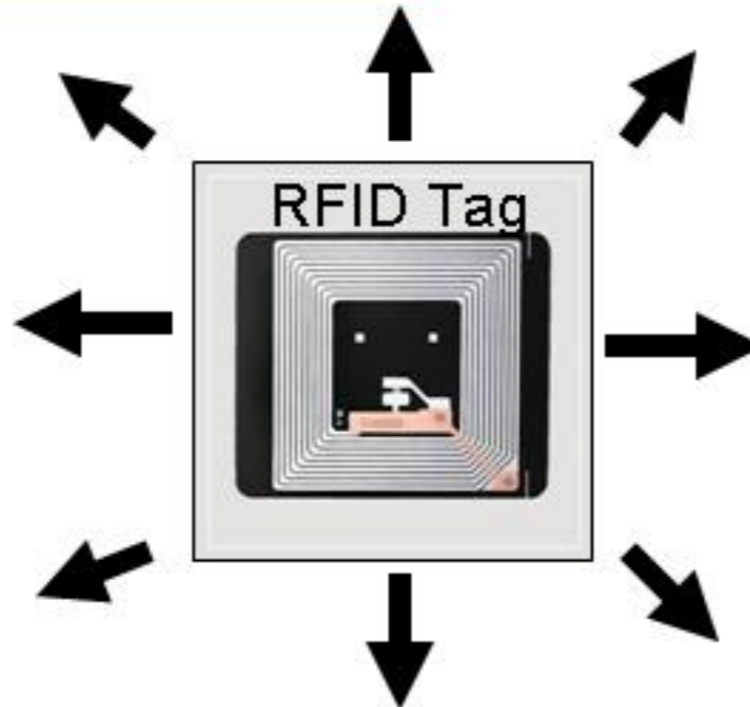
3M RFID Enabled Library Solution

1. Check - Out



3M RFID Enabled Library Solution

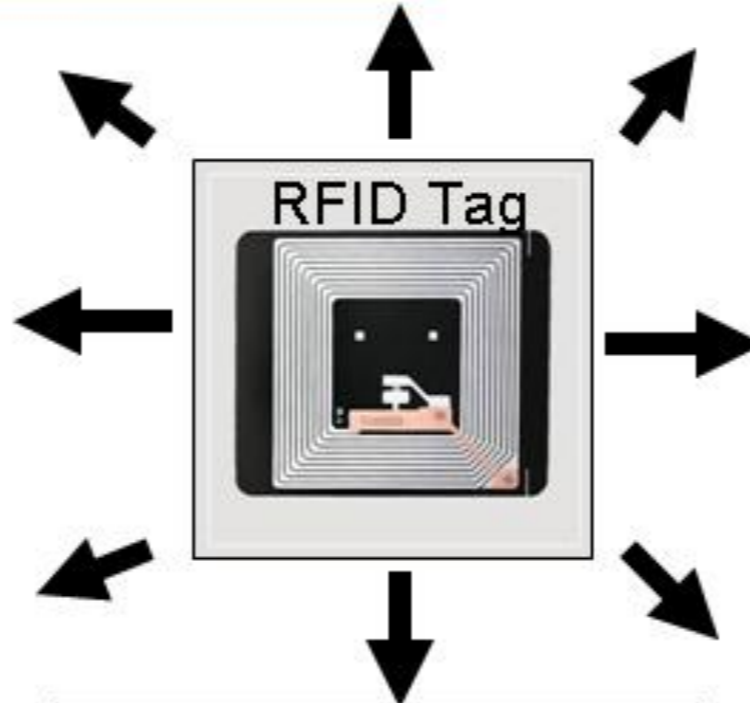
1. Check - Out



2. Inventory

3M RFID Enabled Library Solution

1. Check - Out



2. Inventory



3. Check - In

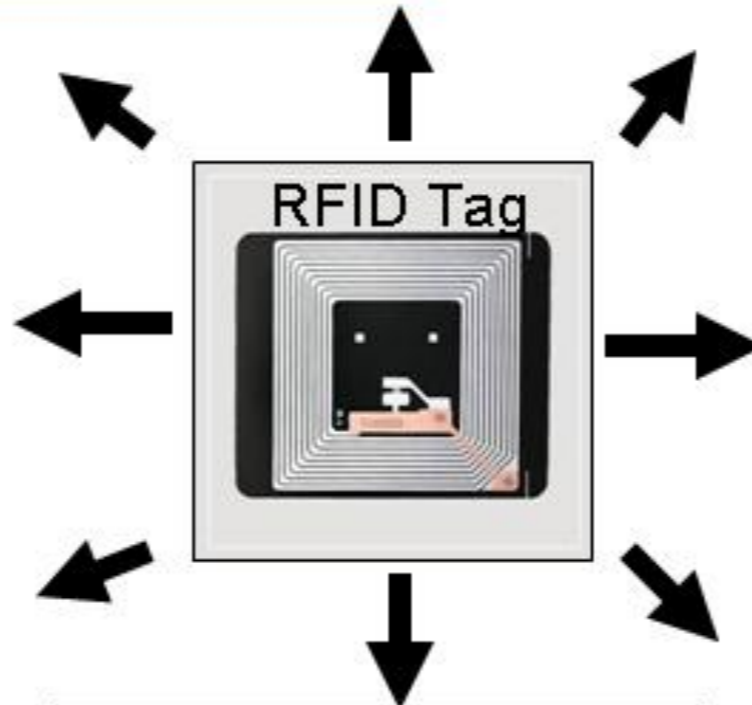


3M RFID Enabled Library Solution

1. Check - Out



4. Security



2. Inventory

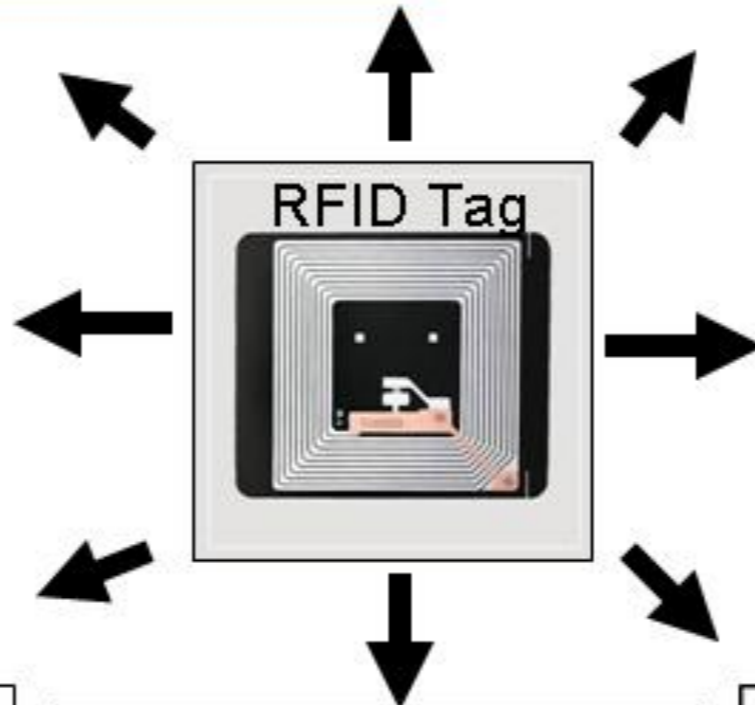


3. Check - In



3M RFID Enabled Library Solution

1. Check - Out



2. Inventory



5. Staff



3. Check - In



5. Staff

4. Security



RFID Application Tag Reliability Requirements

- Many examples of RFID applications
- Tag reliability requirements vary
- Many RFID tag manufacturers don't understand libraries' needs
- Long-term reliability must be designed and built-in



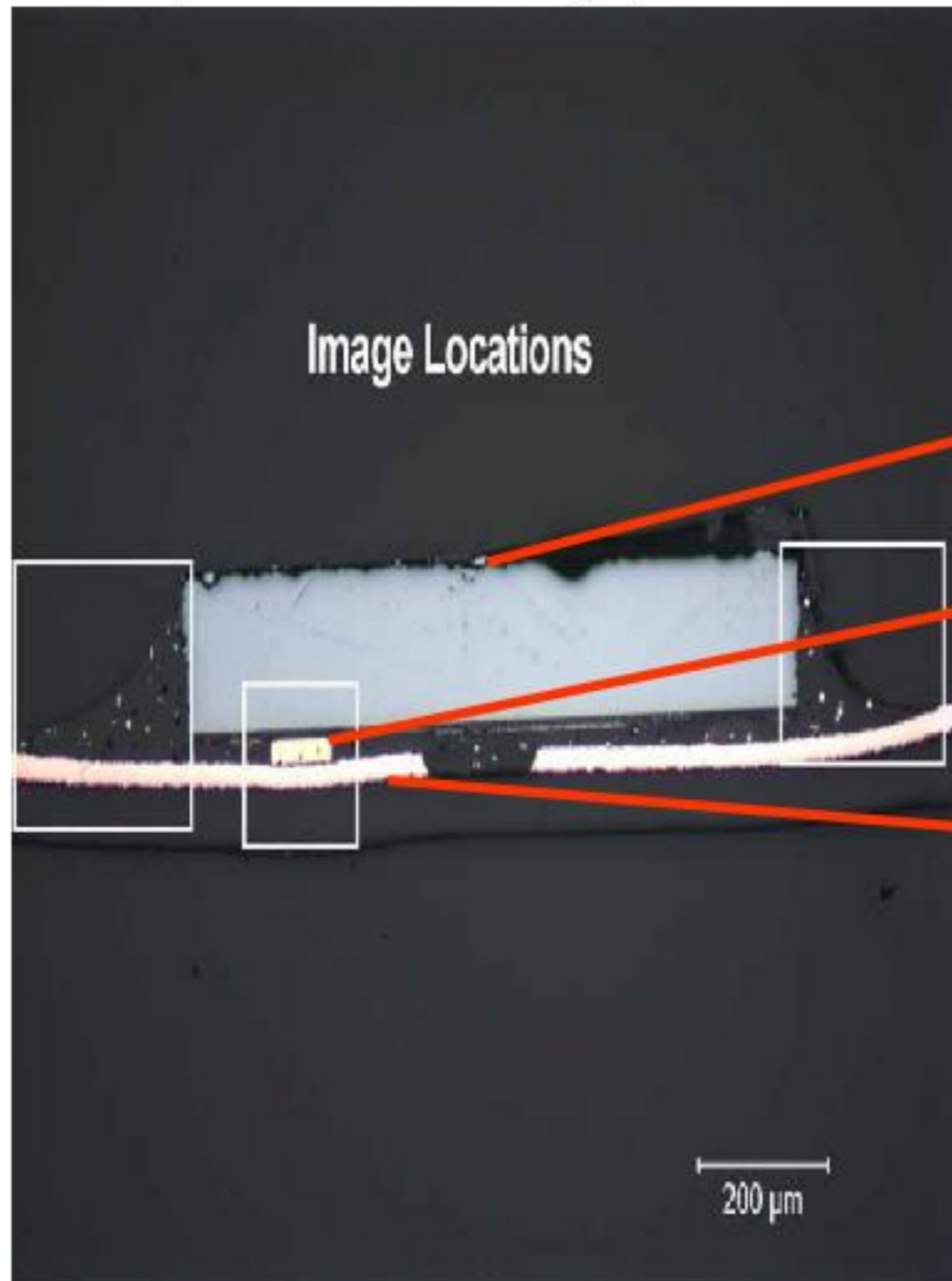
3M Accelerated Aging Testing

- Use standard electronic test procedures
- 3M has expertise, specialized lab
- Comparative data from 10 RFID tag suppliers
- Predictive models confirmed over time
- Confidence behind 3M warranty



Tag Microscopy

Tag is sliced through contact point between the gold bump and antenna in order to determine cause of failure



Integrated Circuit (IC)

Gold Bump

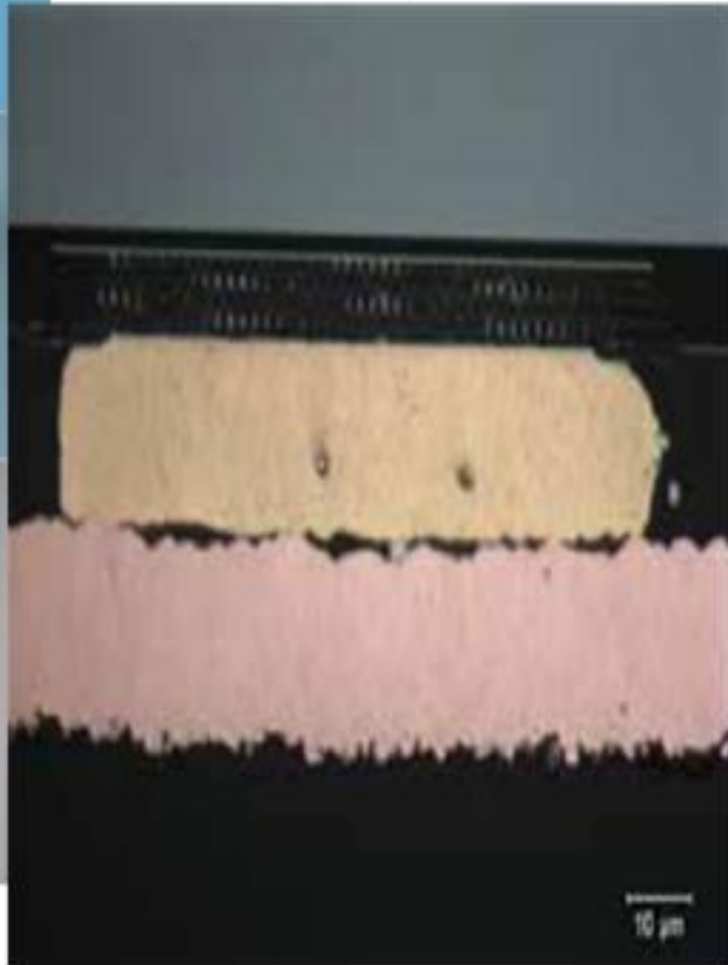
Antenna

Gold bump width is about the same as the width of a human hair (~80 microns)

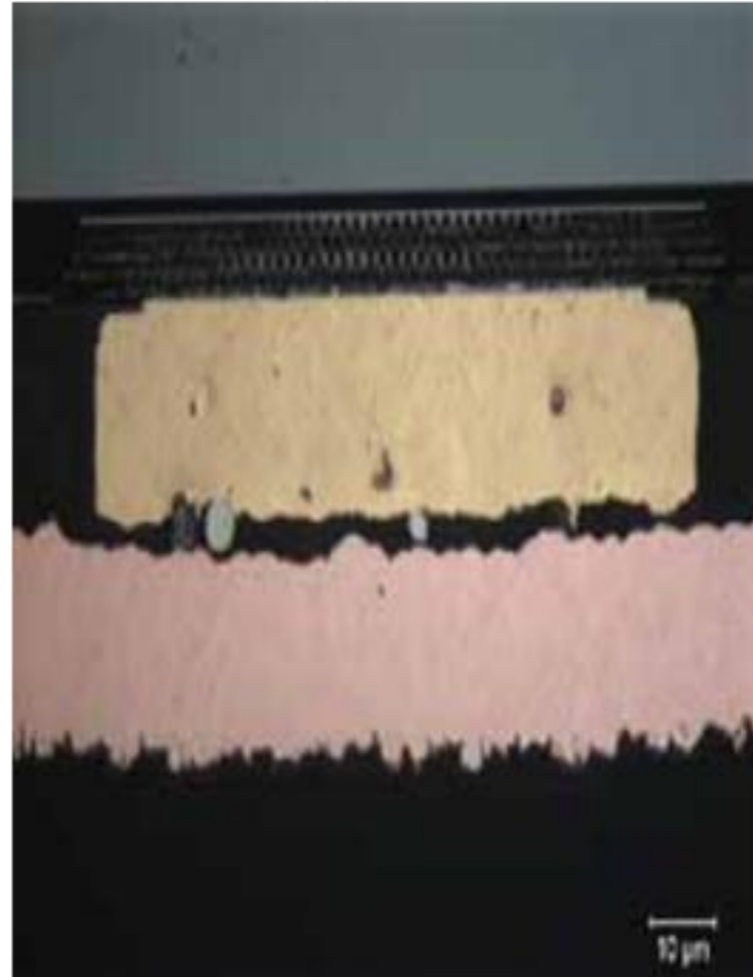


Tag Microscopy

Not Aged



Aged

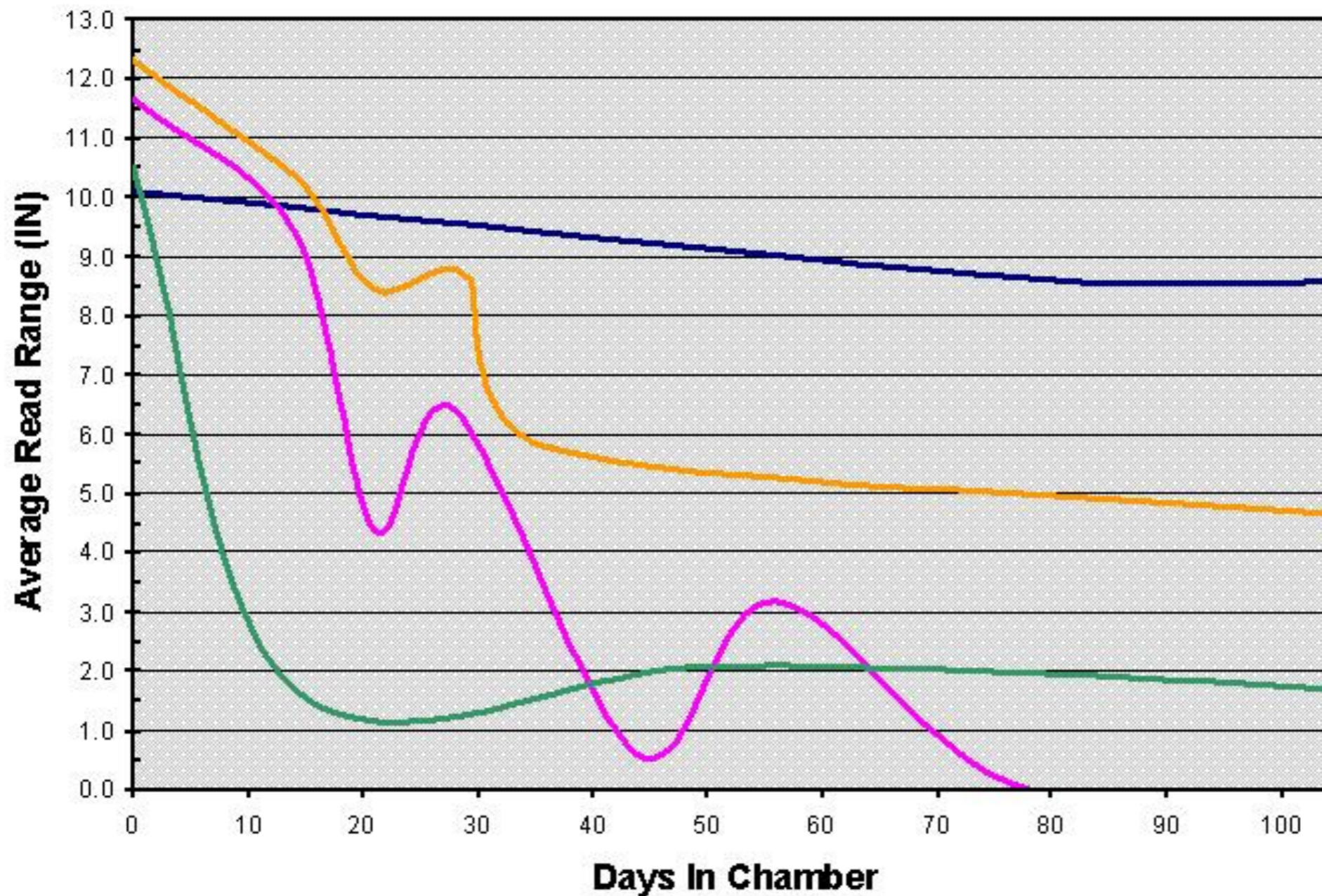


Aged



Accelerated Aging Test Results

ISO 18000-3 Tags - 65C/95RH Chamber



What you should ask your RFID tag supplier:

- Have you tested your tags for long-term reliability?
- What test methods do you use?
- Is the test longer than one week?
- Can I see the data?



3M Has Been a Standards Leader in the Library Market

- Standard Interchange Protocol (SIP) 2.0
 - 3M developed what has now become the de-facto standard for communication between self-service devices and Integrated Library Systems Software and then provided it to the industry as an open standard.

- NISO Circulation Interchange Protocol (NCIP)
 - We played an active role in developing this protocol and have implemented NCIP into our products. Representatives from 3M continue to actively participate in the NCIP-IG committee.



Actively Driving ISO RFID Standards



- Another way is through our involvement with the International Organization for Standardization (ISO), which is developing ISO 28560, “Data Model for use of RFID in Libraries”.
- Working group for this emerging standard is TC46/SC4/WG11. Group’s goal is to define a data model that defines the data stored on RFID tags in library items.
- Two Global Standards – Decision made in October 2007 (Country will Choose)
 - Fixed Model (Example Country Standards)
 - Variable based Model – based on ISO standards 15961 and 15962 (U.S. Direction)



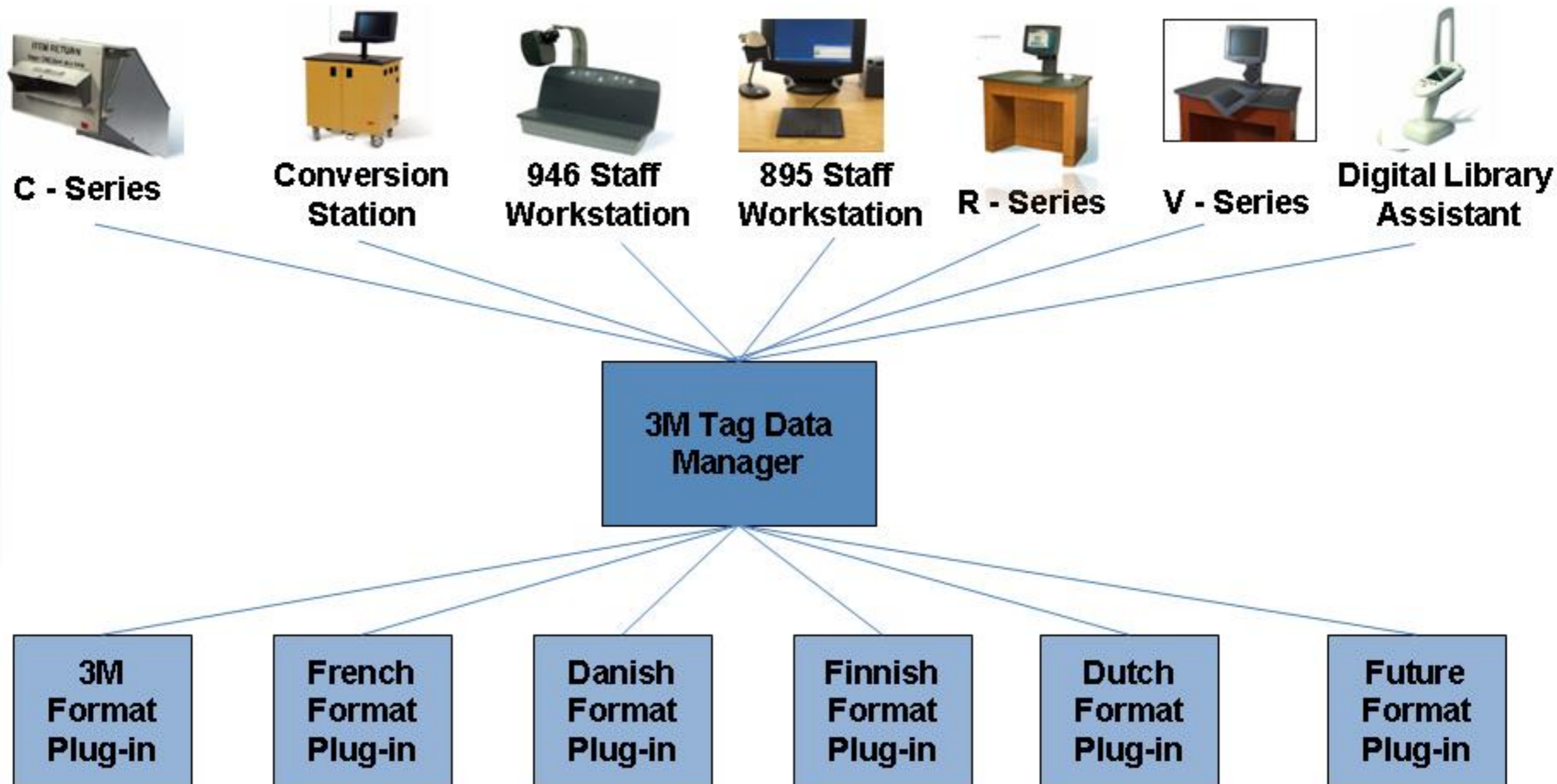
Current ISO Standard 18000-3 and 15693-3



Air Protocol



3M System Architecture Designed for the Future



3M RFID Library Systems - Benefits

- Increasing Customer Satisfaction.
 - *Check-out multiple items at once – quicker & less queuing time.*
 - *With automated returns items back in circulation quicker.*
 - *Greatest benefits – staff have more time with library users.*
- Improving Staff Productivity and Satisfaction.
 - *Traditional time consuming manual tasks – check-in, check-out, searching lost or on-hold items are partially or fully automated.*
 - *Provides valuable time to improve existing or new information services.*
- Staff Health.
 - *Reduce risk of librarians suffering from repetitive strain injuries.*
- Financial Responsibility.
 - *Library Directors are able to respond to increasing circulation demands without associated increase in staff costs.*
 - *Typically 3M RFID systems investments pay for themselves within 2 years.*



Why 3M Library Systems – Simply Market Leader.

- Excellent Technology.
 - *Durable, reliable & accurate – result of 100 years advance manufacturing expertise.*
 - *Solutions CE and ROHS compliant.*
- Superior Design .
 - *Blending functionality and elegance that invites library users to try solutions with over 90% first time use success rate.*
- Library Experience.
 - *Over 35 years experience working hand in hand with librarians all over the world.*
- Unparalleled Service.
 - *We pride ourselves on our service levels which is why customers stay and grow with us year after year.*
- Business Strength
 - *3M is one of the most respected companies globally and continually invests its resources to solve customer problems. This is why we will still be around for the next 100years.*



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