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BEST PRACTICES

# **LIBRARY RFID AND AUTOMATED MATERIALS HANDLING**

## Management of Library Automated Materials Handling (AMH) / Radio Frequency Identification (RFID) Projects

1

### DEFINE PROJECT GOALS

Identify and clearly articulate the reasons you are implementing RFID and/or AMH. Project goals should be defined in the following areas:

- Patron Experience
- Staff Workload and Ergonomics
- Security
- Efficiency Turnaround Times
- Collection and Shelf Management
- Staffing gains or shifts

2

### DEFINE METRICS FOR PROJECT GOALS

For each goal, decide upon metrics to measure and track them on an ongoing basis to ensure goals are being met, such as:

- Number of ergonomic injuries reported and observed
- Number Claimed Returns by patron
- Number lost and missing items in collection
- Shelved items in the wrong status
- Turnaround time (from Return to Back-on-Shelf)
- Staff time spent sorting, checking in bookdrop, checking in delivery, processing holds, looking for requested items, shelving
- Staff time processing exception reports
- Space used for sorting, staging, pre-shelving, holding material in process
- Self-check rate
- Loss rate (by material type or collection)

3

### FORM AND PREPARE A PROJECT TEAM

Put together a broad-based group of staff to work on the project and ensure they have the support, experience, and time they need to successfully manage the project. Define a Primary Working Group that will work throughout the project and meet on a frequent basis. Create Task Forces with members of the Primary Working Group plus other people from staff for each aspect of the project including:

- Self-Check-out
- Self-Check-in
- Collection and Shelf Management
- Tagging
- Communications and Public Relations
- Training
- Evaluation (or have each task force conduct their own evaluation)
- Security
- ILS Integration and Staff Workstations
- Backroom Operations (including sorting)

4

### CAPTURE DATA (BEFORE AND AFTER)

Gather statistical data related to your goals so you can track the success of the implementation and make corrections.

## 5

**PLAN THE NEW SERVICE MODEL**

Work with circulation and public services to create a new service model made possible by the technology. Work with circulation staff so they understand the technologies and the choices they'll have to make and then collaboratively design the customer experience that the Library wishes to create.

- Select the technologies and processes that will support that customer experience
- Identify services that will be self-service and how staff will train and support patrons
- Determine optimal arrangement of furniture and equipment to support the above services
- Develop signage and instruction needed to support patrons especially with self-service tasks
- Identify training needs for staff and for patrons to roll out new service model
- Consider the constraints of the actual spaces that will be used and identify solutions that accomplish the goals while taking the reality of the library's space constraints into account
- Create a plan for shifting staff to new positions or reallocating positions through attrition as new technology is successfully implemented

## 6

**DEVELOP TALKING POINTS FOR KEY GROUPS**

• Library Management and Boards  
Include: project goals, costs, schedules, customer benefits and potential concerns

• Library Staff  
Include: new job requirements and how it will impact staff (job loss), training plans, schedule, and customer benefits

• Community  
Include project goals, customer benefits, schedule, source of funding (if it will arise) and address safety concerns

## 7

**SELECT VENDORS THAT WILL WORK AS LONG TERM PARTNERS TO THE LIBRARY**

Vendors have expertise that can be leveraged to improve the project.

Find a vendor that is a good fit for the Library and take advantage of their expertise.

## 8

**INCLUDE SUPPORT, MAINTENANCE AND SERVICE LEVEL AGREEMENTS IN CONTRACT**

Protect your investment with the appropriate support and maintenance needed for your library and include Service Level Agreements that include penalties for failing to meet those agreements.

**ABOUT THE AUTHORS**

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## Library Radio Frequency Identification (RFID)

1

### WEED

Before starting implementation, aggressively weed collection and discontinue use of non-RFID security mechanisms (e.g. RF or EM technology)

2

### FOLLOW STANDARDS

Familiarize yourself with NISO RP-6-2012 Guidelines for RFID in Libraries. This set of guidelines defines best practices and standards to follow to your technology is interoperable and compliant.

3

### ONE VENDOR FOR TAGS, WORKSTATIONS AND SECURITY GATES

Work with a single vendor to buy RFID staff workstations, security gates and tags. Selection of self-checks and automated materials handling vendor can be done at the same time but should be implemented after the basic RFID system is in place meaning the entire collection has been tagged, gates are installed and staff workstations are configured with RFID pads.

4

### DEMO STAFF WORKSTATION WITH CURRENT LIBRARY SYSTEM CLIENTS

During the procurement, demo the RFID staff workstations with your existing library system. And, if you are changing your library system, do this before your RFID procurement.

5

### USE RFID FOR BOTH ITEM IDENTIFICATION AND THEFT DETERRENCE

Do not use EM or RF technologies (e.g. Checkpoint) in combination with RFID. These can conflict and complicate matters. If locking cases must be used, use RFID-enabled systems that open automatically at check-out.

6

### FOLLOW NISO RP-6-2012 GUIDELINES FOR TAGGING

Use ISO 18000-3, Mode 1 RFID tags and program tags according to ISO 28560-2 pursuant to NISO RP-6-2012 Guidelines

## 7

**USE APPROPRIATE TAGS FOR ITEM TYPE**

- For high value media such as popular DVDs, use full coverage tags (Stingray or X-Range)
- For low value media, use book tags on the case (much less expensive and are detected better than hub tags)
- Only use hub tags on media if using them to define a set (so they would be paired with the book tag on the case)
- Test performance of tagged material to make sure the right type of tag is being used and the tag has been encoded correctly
- Test for identification (how well does it work at staff workstations and self-checks) and for security (how consistently is it detected by security gates – and be realistic about the limits of the technology, it is only a deterrent, it can't prevent theft)
- Once performance testing is complete, establish your tagging strategy for all material types based on the right balance of security and return on investment

## 8

**USE SET INFO TO ENABLE SINGLE DISC DETECTION**

Set Info is a field that is part of the standard. It can be used to enable single disc detection inside cases without staff having to open media cases. It will also help ensure patrons have the discs inside the cases when they check out DVDs.

## 9

**MONITOR EFFECTIVENESS OF SECURITY GATES**

Continually monitor effectiveness of security gates and check-out equipment.

- Do not fall into the habit of waving patrons through the gates assuming it is a false alarm – false alarms are a sign of a problem
- Contact vendor to address poorly performing equipment, they may need re-tuning
- Provide additional training (to staff and patrons) if users are not using equipment correctly
- Develop a protocol for responding to gate alarms such as offering to assist patrons in “completing their check-out”

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#### SET GOALS AND METRICS

Determine specific goals for implementing RFID-based self-check and establish metric to be monitored including:

- Percentage of self-check-out of total checkout to be done by patrons
- Patron wait time for check-out at peak times
- Amount of time staff spent checking out material (e.g. average time spent per customer)

2

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#### RESOLVE IMPEDIMENTS

Identify impediments to achieving your desired rate of self-check and adjust as needed, including:

- Circulation and renewal policies
- Options for paying fines and fees
- Other conditions that block the check-out (e.g. item type and borrowing limits)
- Ease of check-out in terms of patron interface
- Requirement to have library card in hand
- Locking cases

3

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#### GET ENOUGH SELF CHECKS

Determine how many people will be using the self-checks at peak times and plan to get enough self-checks that there are never more than a couple people in line during these times. If multiple functions can be performed on the self-checks, more of them will be needed.

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#### LOCATE SELF-CHECKS STRATEGICALLY

Support the natural flow of patrons while making sure they are located near staffed service points.

- Place self-checks near circulation desks, near self-service holds pick-ups and near exits
- Place themed self-checks in children's areas separate from other areas so children & parents can use them without being rushed
- Try to cluster self-checks so a single staff person can monitor several at a time

5

#### HELP PATRONS WITH TRANSITION

Help patrons with the transition to new self-checks with staff support, encouragement, and good signage.

- Provide clear, simple and accurate signage
- Supplement with additional instruction as needed
- Watch patrons using the equipment and observe where they get stuck (interface issue, need a hook for their purse, step stool for kids, etc.)

6

#### HELP PATRONS WHERE THEY ARE

When supporting patrons, do as much as possible where they are - instead of making them move to get help.

7

#### MATCH FINES AND FEES PAYMENT SUPPORT WITH SELF-CHECK GOAL

Provide appropriate support for fines and fees payment to meet desired self-check goal.

- Provide for multiple ways to accept credit card /debit card payments (e.g. both online and at self-checks)
- Reduce number of locations where cash is accepted due to the time required to reconcile each drawer or self-check. Consider one staffed "Accounts Desk" for all cash transactions.

8

#### MONITOR AND ADJUST

Continuously monitor self-check rates and other key metrics to ensure project goals are being met and make adjustments as needed.

9

#### KEEP EQUIPMENT CLEAN AND IN GOOD WORKING ORDER

Assign a responsible staff person for regularly cleaning and testing performance of all self-checks and security gates. Keep equipment up-to-date with maintenance agreements.

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## Library Automated Materials Handling (AMH)

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1

### DEFINE GOALS AND METRICS

Determine specific goals for implementing RFID-based self-check-in and establish metrics to be monitored including:

- Percentage of self-check-in to be done by patrons
  - Patron wait time for check-in
  - Amount of staff time spent checking in material
  - Amount staff time spent sorting and handling material before shelving
  - Turnaround time for getting returns back on the shelf
- 

2

### RESOLVE IMPEDIMENTS

Identify impediments to achieving your desired rate of self-check-in including:

- Circulation and renewal policies
  - Ease of check-in for all material
  - Location and number of self-check-in options
  - Observe patrons using the equipment and identify problems that they encounter which cause them to abandon their self-check-in attempt
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3

### LOCATE SYSTEMS STRATEGICALLY

Self-check-ins should support the natural flow of patrons and the sorters should support the work of circulation staff.

- Place check-ins near entrances (e.g. on outside of building or in foyer for 24/7 use, and inside library) so patrons enter library hands-free with clear accounts
- Provide drive-up check-in option that works without patron getting out of car, preferably as the customer drives into the library for parking.
- Have all check-ins configured to feed directly into the staff workroom where the sorter is located
- Eliminate outside book drops where staff must retrieve and move full bins



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**CHOOSE CONFIGURATION OPTIONS TO SUPPORT LIBRARY GOALS**

AMH systems come with a lot of options related to receipts, how many items can be returned at a time, interfaces. Identify the library's needs related to these options by asking these questions:

- Must paper receipts be offered requiring an interface to start and stop each customer's return session?
- Are alternatives to paper receipts acceptable if there is no screen interface needed for the customer's return session?
- Must non-library items be returned to patrons instead of being accepted and routed to the exceptions bin?
- Is it important to allow patrons to return items in a stack (rather than one at a time?)

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**ASSIGN AMH STAFF**

Assign one person per shift to be responsible for managing the sorter during open hours. Tasks include:

- Swapping out or emptying full bins/carts on sorter
- Inducting items returned to other locations where self-check-in is unavailable (e.g. incoming delivery, returns to staff desk, other bookdrops)
- Preparing and staging ready to shelve carts
- Matching hold slips with requested items as they are returned
- Keeping machine clean and changing sort bin assignments as needed

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