



## CASE STUDY:

# Using RFID to Manage and Secure Library Materials

### BACKGROUND

The Hamburg Public Library System (Bücherhallen Hamburg) in Germany holds 1.6 million books, 130,000 CD's, and 55,000 videos, DVD's, and cassettes as well as numerous other media in 26 languages in its collection. Approximately 4.2 million visitors borrow more than 12 million types of media annually from the 17 city branch library system.

### CHALLENGE

Historically, Bücherhallen Hamburg libraries relied on their staff to manually scan individual items as they went through the handling process. As a result, valuable resources focused their efforts on time-consuming checkout and inventory management procedures, while patrons faced long lines and reduced customer service due to the demands placed on library staff.

Recognizing the need to automate their book handling processes, Bücherhallen Hamburg turned to TAGSYS and library integration partner FKI-L to implement an automated RFID-based solution to streamline the library's end-to-end workflow. The new RFID application completely replaces the library's current bar code tracking system. With this new solution, Hamburg library's staff and patrons benefit through a faster check-in and checkout, access to accurate holding information, and an improved theft control system.

### TAGSYS RFID SOLUTIONS

Bücherhallen Hamburg invested in TAGSYS' item-level RFID solution based on our proven experience designing and manufacturing complete RFID infrastructures for libraries and our competitive pricing.

Hamburg's HF (13.56MHz) RFID system includes TAGSYS' paper-thin, flexible Folio™ tags for books, CDs and periodicals. The system also includes TAGSYS-based staff-operated table-top programming and circulation stations, security pedestals, automatic self check out stations, as well as self check-in units featuring small conveyor belts that automatically moves tagged items past the RFID antenna to update the database and re-activate the RFID tag's antitheft protection. TAGSYS partner FKI-L also provided the necessary software interface to integrate the RFID infrastructure with the Library Management System (LMS).

TAGSYS designs and manufactures a comprehensive multi-band RFID infrastructure for item-level tracking in a variety of industries. This universal infrastructure includes purpose-built readers and tags, as well as RFID management software, all designed to work together seamlessly in the most demanding environments. TAGSYS products automate labor-intensive processes, authenticates and safeguards goods, and enables real-time inventory and asset visibility.

With a proven track record of delivering reliable, high performance production systems, TAGSYS has deployed over 200 million tags and 90,000 reader systems to over 500 customers in more than 40 countries.

TAGSYS RFID solutions are currently deployed in a range of highly specialized vertical markets that include: Libraries, Textile Services, Pharmaceutical, and Fashion/Apparel.

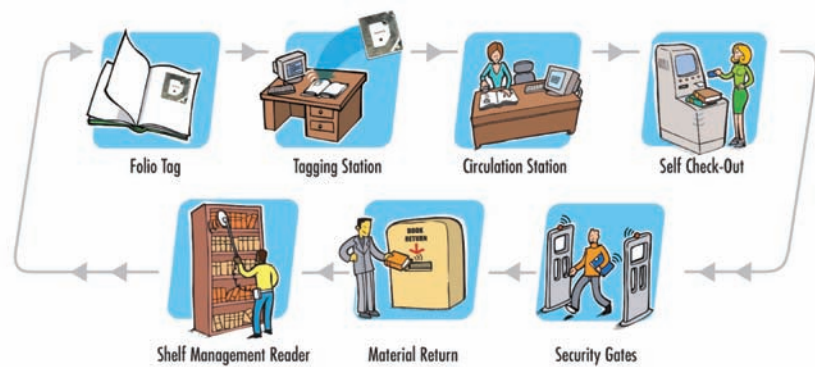
The company is headquartered in Massachusetts with offices and R&D Centers in France and in Hong Kong.

TAGSYS develops comprehensive multi-band RFID infrastructure for item-level tracking. This universal infrastructure includes purpose-built readers and tags, as well as RFID management software, all designed to work together seamlessly, at the highest performance levels, in the most demanding environments. With a proven track record of delivering reliable production systems, TAGSYS has deployed over 100 million tags and 60,000 reader systems to over 500 customers in more than 40 countries. More information on TAGSYS can be found at [www.TAGSYSrfid.com](http://www.TAGSYSrfid.com).

### HOW IT WORKS

The inside back cover of each book in Hamburg’s library is tagged with a square, adhesive RFID tag label. DVDs and CDs are tagged with a with a round RFID transponder inside of a circular label. This unique design enables the DVD or CD to maintain its balance in order to spin properly, while keeping the RFID tag from interfering with the item’s ability to play. Each RFID tag is programmed with the book, DVD or CD’s corresponding identification number while activating the chip’s antitheft protection bit.

When processing an outbound item, the antitheft function of the item’s RFID tag is automatically de-activated by the RFID station. Consequently, the RFID tag triggers an alert to the security gate if someone tries to leave the library with an unchecked item. When the item is returned, the tag’s antitheft function is automatically activated as the item passes through the return station’s RFID reading system. The library’s database automatically updates when the item is checked back in and put into circulation.



### HIGHLIGHT

A highlight of Bücherhallen Hamburg’s deployment is the performance standard set by TAGSYS’ LSP4 reading stations when reading CD tags. TAGSYS’ innovative LSP4 is the only reading station available on the market that has the ability to simultaneously read six overlapping CDs, delivering significantly improved item read rates at unsurpassed levels.



**‘The new design of TAGSYS’ LSA-4 antenna aligns perfectly with our requirements. It anticipates the increased volume of numerical supports in public libraries. The LSA-4’s reading rates have outreached our expectations.’**  
 -Bernd Ingwersen - Manager and Head of IT  
 Bücherhallen Hamburg

### CONCLUSION

The new TAGSYS RFID-based solution has improved Bücherhallen Hamburg’s entire material handling process. With the new RFID system, library staff is now relieved of checkout duties, and can spend more time providing other services to library patrons.

[www.tagsysrfid.com](http://www.tagsysrfid.com)

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