A M I C O

AMICO Library Contribution Workflow
(Version 1.2)

Many different people are involved in an AMICO Member's contribution to The AMICO Library. Although staff may be organized in different ways, depending on their institution, the tasks they must perform are similar. This workflow documentation outlines the stages in making an AMICO Library Contribution process. It is designed to:

  a. help individual Members plan their AMICO activity, and
  b. assist institutions to frame the staff tasks on behalf of AMICO and introduce these elements into job descriptions.

It is hoped that a common frame of reference will permit Member staff to identify the level of effort involved in each area, so that AMICO may in turn tell Members and prospective Members what they can expect when they participate in AMICO.

This document uses two conventions:

  a. Tasks are identified as being **inputs**, **controls**, **activities**, or **outputs**.
  - *Inputs* are materials that need to be gathered prior to the task.
  - *Controls* are guidelines for how the task is to be performed.
  - *Activities* are performance of tasks.
  - *Outputs* are the things produced when a task is accomplished.

  b. Tasks are identified as being the responsibility of either *Members* or *AMICO.*

The six major actions in creating The AMICO Library are:

No.	Action	Done by…
1	Select	Member
2	Review	Member
3	Export	Member
4	Validate	AMICO
5	Enhance	AMICO
6	Distribute (to Distributors and to Members)	AMICO

See the diagram that follows for an outline of the relationship between these steps. Each step is then described in detail.
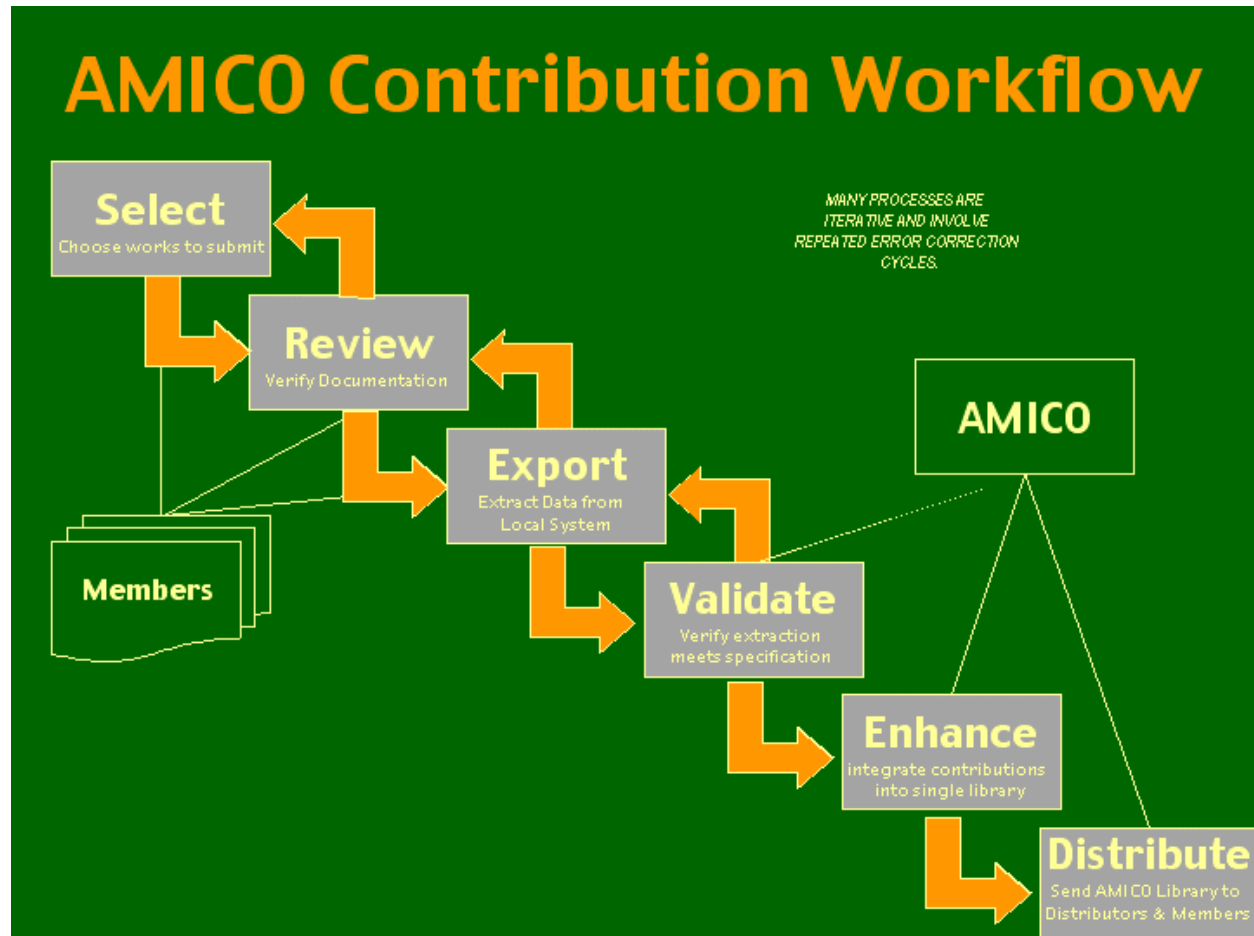
Note: Iterative tasks are shown with a feedback loop (an arrow returning to the prior task). In these cases, it may be necessary for errors to be corrected before continuing on to the next stage.

1. Select AMICO Contributions

Goal: Identify the works for which documentation will be sent to AMICO

Each institution needs to identify the works it will provide to AMICO approximately six months before making its contributions. AMICO needs this information to prepare its forward marketing materials and schedule work; AMICO Members need to plan what documentation, photography and resources will be needed or which rights will need to be acquired before they can complete their AMICO Submission.

Lists of candidate contributions from each AMICO Member are due to the AMICO Production by **October 1 of each year.** Earlier informal review with the AMICO Production is strongly encouraged.

Before Selection can begin, you will need the following Inputs:
- AMICO-forwarded requests by Library users for specific content
- AMICO's analyses of works referenced in standard teaching sources not yet incorporated into The AMICO Library
- AMICO-identified requests for works related to works already in The AMICO Library
- AMICO-identified works for which Antenna Audio sound files exist or for which there is documentation from another source
- Your own review of works in the collection that have been recently acquired, exhibited, published and/or digitally documented

Guiding your Selection will be these Controls:
- Member's editorial guidelines (for local documentation standards)
- Member's curatorial wish-lists (for works to include in The AMICO Library)
- Member's determination of available digital (or easily digitizable) content
- Members' cleared rights
- AMICO-cleared rights administered by ARS & VAGA

To make your Selection, you undertake these Activities:
- Members creates mechanism for identifying candidate AMICO contributions
- Member conducts a pre-review of works:
  - Identify rights clearance or documentation needs
  - Identify works with good data (those that have been recently published) and define data correction needs
  - Identify works with photography or images available

Once you've made your Selection, you will have produced the following Outputs:
- List of candidate works to send to AMICO for its planning and publicity
- Documentation requirements (data, images and rights) flagged for internal preparation
- Staff assignments and schedules to prepare data for timely delivery to AMICO

2. Review Content of Proposed Contributions

Goal: Accurate and High-Quality Digital Documentation to Contribute to The AMICO Library

Each Member's project team must review the proposed contributions to The AMICO Library in order to identify needed documentation, request further rights clearance and create needed photography. *Ideally, as each group of works completes the review process, they should be contributed to AMICO rather than waiting until all the annual contribution is completely assembled. Keep track of what has been contributed and what needs to be sent.*

Before Review can begin you will need the following Inputs:
- Your list of identified candidate works
- Your list of needed documentation (data, images, long texts, audio)

Guiding your Review will be these Controls:
- Documentation, editorial or curatorial guidelines
- Imaging guidelines
- Internal file naming guidelines

To make your Review, you undertake these Activities:
Member verifies/corrects content of local Databases
1. Curatorial staff reviews content
2. Registrar/Collections Manager/Editor reviews classification, credit lines, rights
3. Editor/Publications conducts proofing and edits for consistency
4. All corrections from each of these areas are input into local system.

Member reviews images
- Photography is examined
- If none/or inadequate, schedule photography
- If existing digital images are not right size or color space, resize, alter and/or sample from master image file
- Review and color correction

Member examines other digitized files
- Antenna files are reviewed for decision whether to include
- Marked up texts reviewed for DTD or browser consistency
- Review QuickTime and other multimedia files.

Member confirms correct file naming
- Verify file names conform to conventions in use at Member institution
- Verify files have appropriate prefix and suffix

Member clears rights
- Contact rights holders requesting permission for AMICO use
- Identify works that are represented by ARS & VAGA, in appropriate manner.

Once You've Made Your Review, You Will Have Produced the following Outputs:
- Accurate, rights-cleared data, image metadata and linked images and multimedia files approved to contribute to AMICO

3. Export Data (iterative process with correction cycles)

Goal: Catalog records, image metadata records and linked image and multimedia files successfully sent to AMICO according to the agreed specification.

Preparing AMICO contributions for export and successfully exporting the data, images, related multimedia files and cataloging records requires IT staff to follow carefully developed routines in a systematic fashion. Experience has shown that if these are well documented, the process will run predictably and smoothly. Allowing a single individual to "just do it" each year is "asking for trouble" in the future.

Exporting data and validating data are iterative processes, where records are exported, validation identifies errors, corrections are made and a new file of records is re-exported and re-validated.

Before Export can begin you will need the following Inputs:
- Member's list identifying full set of digital files and records to be sent to AMICO.

Guiding your Export will be these controls:
- Member's map of fields in local Collections Management System to the AMICO Data Dictionary
- Member's documented character set used in the output
- Member's export validation or data transformation routines.

To make your Export, you undertake these Activities:
- Validates mapping of Member's fields to the AMICO Data Dictionary (with AMICO help if requested)
- Review map to ensure field usage has not changed
- Review map to make sure AMICO Data Dictionary hasn't changed (AMICO will notify vendors and Members of Data Dictionary changes at least 60 days before data is due.)

Member (or its vendors) writes export report to produce data to AMICO specification
- Identify what manipulation of the data needs to be made on export:
  - Parsing names and creating various forms
  - Creating display fields if they are stored locally in a parsed form
  - Assigning Object Type (OTY) if not stored locally
  - Add AMICO Library Year or export it if record has been sent to AMICO before

Member runs export routine, selecting records marked for AMICO Library contribution
- Review output for proper fielding, presence of delimiters and groups
- Verify character set (windows ANSI 8859/Latin 1)

Member uploads a test number of records
- Run online validation tools, review reports and act to correct "error" messages
- Verify image/multimedia linking

Member assembles multimedia and image files and writes them to media
- File renaming (prefixes added)
- Suffixes verified (check case – e.g. .TIF vs .tif – with Collections Management System usage)

Member exports image metadata file (if it is created in-house)
- Review in same way as Text Record File

Member verifies Rights Link and Object Rights Statements

Once you've made your export, you will have produced the following Outputs:
- Catalog records and metadata records sent to AMICO for loading into The AMICO Library (online submission using the CMS)
- Images and multimedia sent to AMICO for validation and distribution (on media)

4. Validate Data

Goal: A submission that meets the AMICO Data Specification and contains indexable data values that provide access for AMICO Library Users.

AMICO runs automatic routines to validate and parse data submitted by Members. These load the tagged and delimited files submitted into a working database at AMICO and, in the process, check the format of data and enhance some data by adding information from reference files.

Members need to check the results of validations to correct any errors in exported files and to examine the data parsing to determine if mapping is always taking place in the most effective way. Over time we hope that these reports will help Members to improve their export routines and learn from the enhancements that are added automatically and by editorial review.

**COMPLETE & CORRECTED data must be received from Members by
MARCH 1 OF EACH YEAR at the latest
for AMICO to meet contractual obligations for delivery of data.**

Before Validation can begin you will need the following Inputs:
- Data output by AMICO Export
- Data uploaded to AMICO
- Images sent to AMICO
- Multimedia sent to AMICO

Guiding Validation will be these Controls:
- AMICO Data Dictionary
- Guidelines established by AMICO Editorial Committee
  - Object Type Terms List
  - Date indexing Ranges
    - AMICO developed rules to prevent over-writing AMICO-enhanced data

To Validate submissions, AMICO and the submitting Member undertake these Activities:
- Using Contribution Management System, Member or AMICO runs validation and parsing program on submitted files. Validation program checks:

  - Structural verification of presence of required fields
  - Structural verification of valid delimiters
  - Verification of tags
  - Editorial verification of data values in fields:
    - Object Creation Start (OCS) and Object Creation End Dates (OCE) supplied if not present based on Object Display Date (ODT)
    - Object Type (OTY) as checked against agreed list of terms
    - Numeric data only in Creator Birth (CBD) and Creator Death (CDD) fields
    - Numeric data only in Object Creation Start (OCS) and Object Creation End Date (OCE) fields
    - Valid AMICO Member prefix used.
    - M or F used in Creator Gender field.

- Member reviews output from AMICO Validation Routines
  - Error and Warning messages record results of checking for tags, delimiters, required fields, required values
  - Errors corrected in Online Editor and/or file resubmitted as necessary

AMICO Validates Images
- Checks for readable TIFF image
- Checks for required minimum image size
- Creates Thumbnail to be used in Online Catalog
- Validates Member Prefix
  - Corrects/adds if necessary
- Validates TIF suffix
  - Corrects/adds if necessary
- Creates basic Metadata Record if not submitted by Member
  - Member supplies needed default values for Publisher (XPU), Copyright Statement (XRS)
  - Member corrects generated metadata records where necessary in Online Editor (particularly Rights Statements, and Image Description)

AMICO Validates Multimedia Files
- Validates Member Prefix
  - Corrects/adds if necessary
- Validates TIF suffix
  - Corrects/adds if necessary
- Creates basic Metadata Record if not supplied by Member
  - Member supplies needed default values
  - Member corrects generated metadata records where necessary in Online Editor (particularly Rights Statements, and Image Description)

Members check thumbnails to confirm:
- Correct files were sent
- Works are in the right orientation
- No errors introduced during data transfer (partial files, etc.)

Members verify links

- Using Contribution Management System Linking Report Tools, Members ensure that all catalog records, metadata records, and image or multimedia files are linked together correctly.

- Errors corrected in Online Editor and/or file resubmitted as necessary

Once a submission is Validated, AMICO and Member will have produced the following Outputs:
- Validation routine/parser reports of Errors and Warnings
- Museum corrections (if any) to validation/parsing data
- Questions, suggestions, comments from AMICO Production to Member
- Valid records loaded into The AMICO Library
- Invalid records loaded into The AMICO Library and flagged as needing corrections.
- Questions, suggestions, comments from AMICO Production to Member

5. Data Enhancement

GOAL: Integrate the disparate contributions of AMICO Members into a high-quality AMICO Library that meets the needs of AMICO Library Users

AMICO staff initiates Data Enhancement once processing of the submitted AMICO Library is complete, in order to meet access requirements of AMICO Library Users.

Before Data Enhancement can begin, AMICO needs the following Inputs:

- Data from Members that has passed validation
- Rules for enhancing data as agreed by AMICO Members

Guiding Data Enhancement will be these Controls

- Data as supplied by AMICO Members
- Rules as agreed by AMICO Members

To Enhance submissions, AMICO undertakes these Activities:

- For Object Type (OTY)
    - Terms entered are compared to short list of Object types
    - Non-valid terms are moved to Classification Term (CLT) and appropriate Object Type Term entered
    - Problems are flagged for Editorial Review
    - Editor reviews record, follows up with Member as required to resolve questions or ambiguities

- For Classification Terms
    - Terms entered are compared to short list of Object types and deleted if they duplicate the Object Type value
    - Terms are compared to values in other fields, and deleted if they duplicate values in other fields
    - Terms are moved to other fields as appropriate

- For Object Creation Start and End Dates (OCS and OCE)
    - For objects without searchable dates, dates are added based on the values found in Object Creation Text (OCT) and according to indexing rules defined by AMICO Members
    - For dates that are not automatically indexable, Production reviews dates in record and assigns beginning and end dates
    - Production defines additional rules on a regular basis to enhance the automated indexing of dates.

- For Creator Names and Cultures (CRT, CRN, CRC)
    - Artist as identified is compared to names recorded in Artists Reference File
    - If match, Creator Identifier (CID) of Artists Reference File record is entered in Creator group of Catalog record
    - If no match, new record is created in Artists Reference file based on information in catalog record

- Creator Identifier (CID) of Artists Reference File record is entered in Creator group of catalog record

- For Styles and Period Description (STD) and Style and Period Term (STT)
  - Forthcoming: Terms used these fields are matched against the style and period authority. When there is a match the Term Identifier is written back into the record. When there is no match, an AMICO Production reviews the record and either makes a link or creates a new style and period term in the reference file. The term ID is written back to the record.
- For other fields authority checking routines will be developed as appropriate, for example, Geographical Data may be compared to data in the Thesaurus of Geographic Names (TGN)

- AMICO queries Member to resolve questions or ambiguities

Once Data Enhancement is completed, AMICO will have produced the following Outputs:
- Integrated AMICO Library
- Reports to Members of changes in data
- Further enhanced Guidelines, Policies and Procedures for Data Enhancement
- More robust automated routines for facilitating data enhancement.
- Questions and comments for the AMICO Editorial Committee

6a. Distribute AMICO Library

GOAL: Make current version of AMICO Library available to Distributors, for mounting in their systems and delivery to end users.

AMICO delivers data to its distributors weekly and annually. Understanding the cycles and checking to be sure that corrected data has in fact appeared correctly in the distribution systems allows Members to monitor the quality of their contributions as seen by users. This in turn allows AMICO to make suggestions to Distributors about their systems requirements.

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**AMICO HAS CONTRACTUAL OBLIGATIONS REGARDING
WHEN AND HOW IT DISTRIBUTES DATA.**

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Before Data Distribution can begin AMICO needs the following Inputs:
- Data contributed by Members
- Deletion of Records and Images by Members if works are to be withdrawn
- Enhanced records from AMICO Editorial Processes
- Agreements with Distributors regarding update schedules and methods

Guiding Data Distribution are these Controls:
- Record deletion protocols
- Image deletion Protocols
  - Pending agreement and implementation
- Link checking
  - Validates that all links are present before exporting
- AMICO Data Specification

To Distribute Data, AMICO undertakes these Activities:
- AMICO runs regular (weekly) data export routines
  - All records updated, added or deleted during the week are exported

- AMICO makes quarterly exports of images
  - All new images are verified as linked to a catalog record
  - Catalog record fields are written to TIFF header
  - Images are written onto tape
  - Regular tape distributions are sent to distributors

- AMICO exports annual library to tape and ftp sites
  - As above, but with annual increment of entire AMICO Library

- Distributors mount data
  - Download data from ftp site and load it into systems
  - Read images from tape and make distributable versions

- AMICO tests data on distributor system for updates

Once Data Distribution is completed, AMICO will have produced the following Outputs:
- AMICO weekly updates to distributors (these must be loaded within 10 days)
- Quarterly media updates to distributors
- AMICO annual increments to the Library

6b. Return AMICO Data to Members

GOAL: Make data enhancements conducted at AMICO available to Members for local use.

While AMICO data does not currently return data to Members, increasing interest has been expressed in having access to AMICO-enhanced data in local systems. Data returned to Members could consist of reports on AMICO data processing in reusable formats, lists of records (valid, invalid, linked, unlinked etc.), or documentation of guidelines, statistics on use, comments from users, data correlated to Member works using AMICO data enhancement processes, and/or indexing created by AMICO. AMICO will soon begin defining the functional requirements for such systems and exploring some methods to return data to Members.

Before Data Return can begin AMICO needs the following Inputs:
- Members identify of data they might want back from AMICO
- Members define mechanism for declaring this data and export formats

Guiding Data Return are these Controls:
- Specification for data to be exported
- AMICO statistical analysis
- Members import guidelines
- Individual level Password controls for data exporting

To Return Data, AMICO and Members undertake these Activities:
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- AMICO documents validation and editorial processes, produces reports of data in desired formats
- Members download desired reports/formats from Contribution Management System.
- Members develop routines to incorporate data back into local systems
- Members develop processes to take feedback from statistics and comments into consideration

Once Data Return is completed, AMICO will have produced the following Outputs:
- Lists of invalid records, record problems, record corrections made by routines
- Parsed Data where AMICO creates it
  - Creation Date -> Earliest and Latest Date (available now)
  - Measurements -> Text string to repeating fields.
  - Materials and Techniques Description -> individual fields
- Authority data where matched/referenced
  - Creators
  - Cultures
  - Style and Period
- Statistics on use of the AMICO Public Catalog and Distributors systems
- Comments made by members of the public, students and scholars on AMICO works
- Enhanced indexing, including future subject terminology as applied to AMICO works