

## CASE STUDY: SOCIAL SECURITY ADMINISTRATION

# SCANNING 23,400+ MILES OF MICROFILM

Over the past several years, **The Crowley Company** (Crowley) has been an effective partner with the **Social Security Administration** (SSA) on several massive inventory and digitizing projects. Three projects were successfully completed within budget and in record time thanks to the experience of Crowley's **Digitization Services** team. In February 2016, Crowley undertook a large-scale microfilm inventory project to inspect, create an inventory and barcode an archival collection located in an underground mine in Pennsylvania. This project led to another microfilm collection assessment project, completed in September 2017, where Crowley's team inventoried 225+ million feet of microfilm. The success of these two projects led SSA to select Crowley once more for a third project in 2020.

### MICROFILM AT SSA

The SSA started using microfilm as their permanent storage media in 1938. The microfilm created included every U.S. worker's earnings data and employer-reported wages from W-2 and W-3 forms, Master Earnings Files, annual/quarterly earnings, wage adjustments...forms, forms and more forms! Eventually, the SSA record sets (referred to as "collections") totaled over 100 individual categories and accounted for 1.2 million rolls of microfilm (well over three billion pages/images) created from 1938 to 1980.

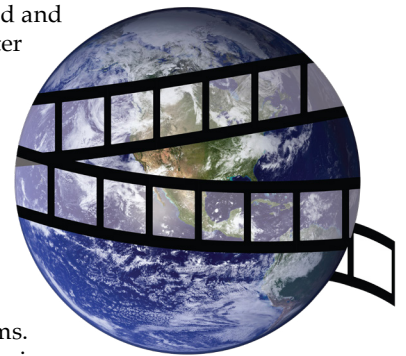
Prior to digitization, the SSA data research staff used a combination of computer database search tools to identify the rolls of film that might contain the requested claim data. The process was manual, time-consuming and inexact. With the microfilm collections degrading rapidly due to vinegar syndrome, the SSA had limited time to decide on a plan (and even less time to execute it).

### SHOULD SSA DIGITIZE?

In response to the workload demand and the decay of microfilm records, several digitization studies were performed by the SSA to examine the feasibility of digitization and by what method. The studies concluded it was feasible and that a safe, high-speed scanner would satisfy. SSA selected the **Mekel Technology** MACH5\* microfilm scan systems (later upgraded to

**MACH10** capabilities) designed and manufactured by Crowley. After acquiring six MACH-Series scanners between 2010 and 2011, SSA digitized 84,695 microfilm reels containing 210 million images.

In October 2014, SSA began scanning another 62,635 microfilm reels containing social security application forms. Based on the progress made during the digitization, the SSA estimated it would take approximately 50 years to complete the remaining one million reels.



Microfilm scanned by the Crowley team was 123.6 million feet, just shy of enough microfilm to circle the Earth.

### EXAMINING THE CHALLENGES

Northrop Grumman, the primary information technology contractor/consultant at the SSA, was tasked with examining the challenges of saving deteriorating film and hastening labor- and time-intensive research via automated electronic records. To do so, they began a year-long examination of the SSA's workflow processes at their Maryland facility and at the Security Records Branch in Pennsylvania.

Upon the study's completion in December 2015, Northrop Grumman issued a report, "Microfilm Records Digitization Process Improvement Study," making several recommendations to the SSA. These included: further analysis of the microfilm condition; a full inventory of the microfilm collections; and an expedited program for the digitization of the microfilms.

### DIGGING DEEPER

The Crowley Company joined the Northrop Grumman\*\*/SSA microfilm study team in 2016 to perform an analysis of the microfilm deterioration conditions. Crowley team members inspected and sampled 2,288 reels of microfilm to create a valid statistical sample of the SSA film repository.

Inventory of **225+ million** feet of microfilm

2017

2016

Inspected and sampled **2,288 microfilm reels** for vinegar syndrome deterioration levels

Completed the digitization of **1,0943,340** polyester-based film reels

2022

2020

Completed the digitization of **142,203** acetate-based film reels

## TIMELINE

Crowley designed a database collection form for the film inspection team to a) identify the source of the microfilm (i.e. the collection); b) identify the storage location and record if vinegar syndrome was present; and c) note any other deterioration conditions to include redox, silvering, deteriorating splices and film curling/twisting.

The findings confirmed the deterioration levels of the microfilm required immediate action to rescue the films from the potential loss of data.

## MOVING FORWARD WITH DIGITIZATION

Due to the vulnerability and instability of microfilm, the SSA engaged Northrop Grumman and their partnership with Crowley to begin digitizing all cellulose acetate-based film, which made up half of all the existing records. The team estimated that the fragile microfilms would only be usable through the end of 2020. The goal set forth by the SSA was to complete the acetate-based film digitization by December 2020 and the polyester film digitization by 2023.

To complete the project in a timely manner, the SSA decided that using a contractor, such as Crowley, with digitization experience was key to providing the expertise and scale of resources to meet the variable workloads.

The SSA Security Records Branch underground facility managed by SSA's Rob Rinker was upgraded to provide the Crowley scanning team with a dedicated scanning room which included thirty-six (36) **MACH10** microfilm scanners. These scan systems were powered by the Meikel **Quantum software suite**, customized for the SSA digitization project. Once captured, the images were transferred to a large on-site server room every evening in preparation for a secondary transfer to the SSA/Wilkes-Barre host computer platform.

# MACH10



The onsite Crowley team of capture experts, known in-house as "Crowley Boyers," was managed by Larry DeMarchi and Deb Watkins under the leadership of Crowley's Digitization Services director of operations, Patrick Hill, and project manager, Elizabeth Groombridge, both operating from Crowley headquarters in Frederick, Maryland.

## PRODUCTIVITY AND PROGRESS

The microfilm reels and canisters containing multiple reels were retrieved by the SSA staff and delivered to the Crowley scanning room. Film lengths varied between 10 to 1,000 feet. Because of this, each operator managed one to four scanners and balanced their workflow processes to ensure scanners were constantly capturing. The principal goal was to keep all 36 MACH10 scanners operating at full capacity.

The Crowley team completed the digitization of the deteriorating acetate films four months ahead of schedule, delivering the last images in August 2020 versus the projected December. Similarly, the Crowley team completed the polyester-based film collections in May 2022, 16 months earlier than projected. The total linear feet of microfilm scanned by the Crowley team was 123.6 million feet, just shy of enough microfilm to circle the Earth.

## MISSION ACCOMPLISHED

The digitization process has helped to modernize the benefit determination and claims processes. The SSA Claims Research staff are now able to retrieve the data from digitized images stored on the SSA's image server at a more efficient pace and at a much lower cost per search. Additionally, the electronic images will better support portable workloads and teleworking by the SSA staff.

## BY THE NUMBERS



**1.2 million rolls of microfilm** with 100 individual collection categories



**Three billion** pages/images of employee earnings data



Social Security Administration (SSA) housed microfilm in over **900 storage cabinets**



On average, the Social Security Administration responds to around **300,000 requests** for earnings information **each year**.

## ABOUT THE AUTHOR

Dave Westcott is the Director of Imaging Services Sales at The Crowley Company with a storied career in records management and digital imaging. Dave is a published technology writer, occasional guest newspaper columnist and fiction author.



## ABOUT THE CROWLEY COMPANY

**The Crowley Company** is a full-solution imaging partner. From micrographics equipment, production and patron scanners to conversion services, The Crowley Company has aided records managers, archivists, librarians, researchers, students and others throughout the world with archival preservation, records management and digitization solutions for over forty years.

\*The MACH-Series is manufactured by The Crowley Company. Since this project, the MACH5 model has been discontinued.

\*\*The Northrop Grumman IT Solutions contract division was acquired by Peraton effective October 1, 2021. Peraton was the prime contractor with The Crowley Company as a team member subcontractor from October 2021 through the completion of the SSA microfilm digitization project.



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