



NASA Aviation Safety Reporting System (ASRS)

ICASS 2018



October 23 - 25, 2018

AVIATION SAFETY REPORTING SYSTEM

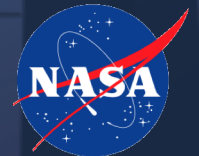
Becky Hooley

Program Director, NASA ASRS

NASA Ames Research Center

Moffett Field, California, USA

Becky.L.Hooley@NASA.gov



ASRS Purpose and Mission Mandate

Identify deficiencies and discrepancies
in the National Airspace System

Provide data for planning and
improvements to the future National
Airspace System



Mandated scope in original Federal Register Notice, FAA Advisory Circulars, FAA/NASA MOA(s) and IAA(s). Largely determines program priorities.



ASRS Principles

VOLUNTARY PARTICIPATION

Aviation personnel voluntarily submit reports concerning events related to safety for the purpose of system alerting, understanding and learning

CONFIDENTIALITY PROTECTION

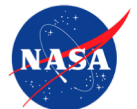
Protection of identity is provided by NASA through de-identification of persons, companies, and any other identifying information

INDEPENDENT

Necessary for trust building and unbiased dissemination of safety information

NON-PUNITIVE

FAA will not use, nor will NASA provide, any report submitted for inclusion under ASRS guidelines or information derived therein for use in any disciplinary or other adverse action (14 CFR 91.25 & AC 00-46E)




The Immunity Concept

Paragraph 9. c. FAA Advisory Circular No. 00-46E

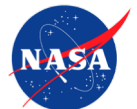
C. **Enforcement Restrictions.** The FAA considers the filing of a report with NASA concerning an incident or occurrence involving a violation of 49 U.S.C. subtitle VII or the 14 CFR to be **indicative of a constructive attitude**. Such an attitude will tend to prevent future violations. Accordingly, although a finding of violation may be made, **neither a civil penalty nor certificate suspension** will be imposed if:

1. The violation **was inadvertent and not deliberate**;
2. The **violation did not involve a criminal offense, accident**, or action under 49 U.S.C. § 44709, which discloses a **lack of qualification or competency**, which is wholly excluded from this policy;
3. The person **has not been found** in any prior FAA enforcement action to have **committed a violation** of 49 U.S.C. subtitle VII, or any regulation promulgated there for a period **of 5 years prior to the date** of occurrence; and
4. The person proves that, **within 10 days after the violation**, or date when the person became aware or should have been aware of the violation, he or she **completed and delivered or mailed a written report of the incident or occurrence to NASA**.

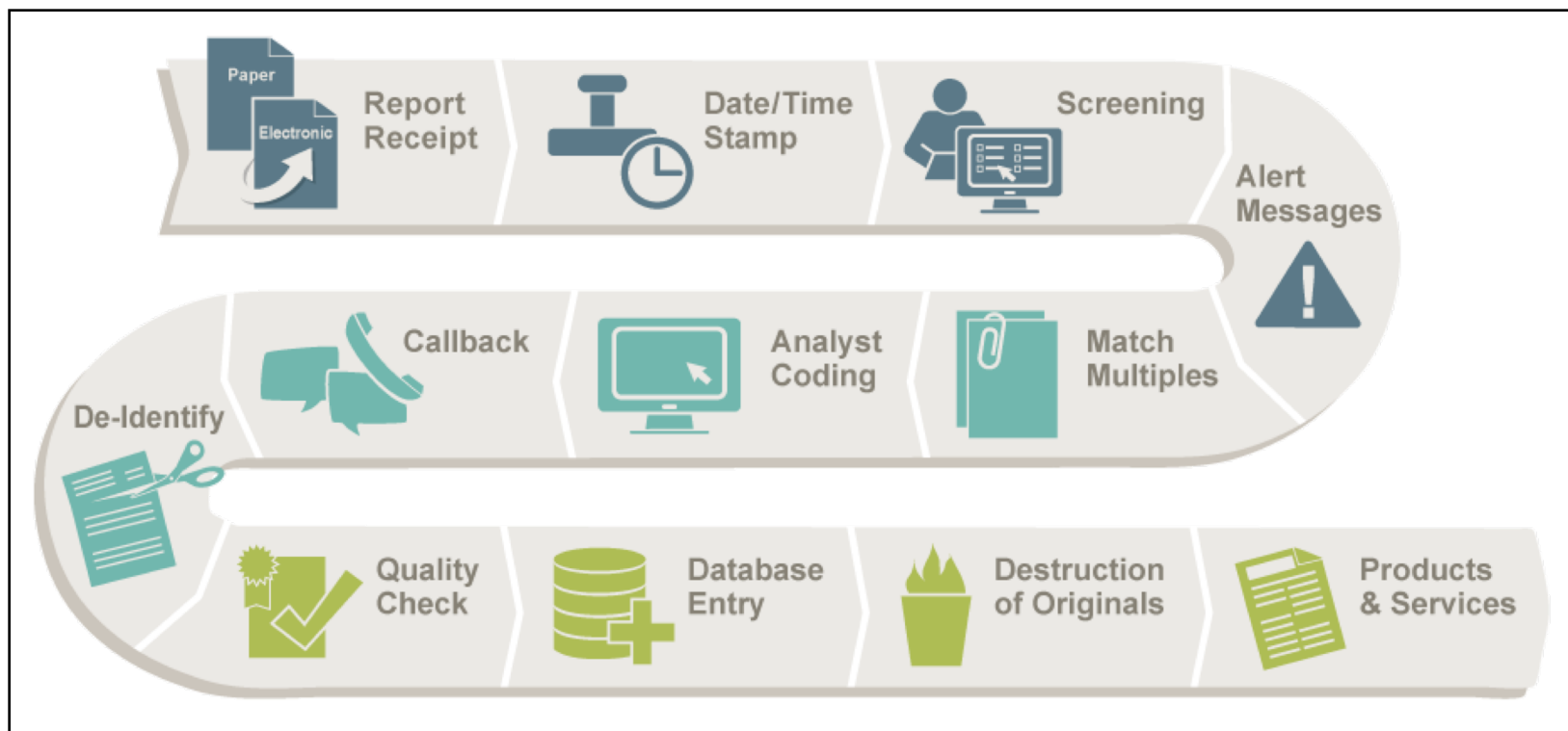




ASRS Metrics and Report Processing

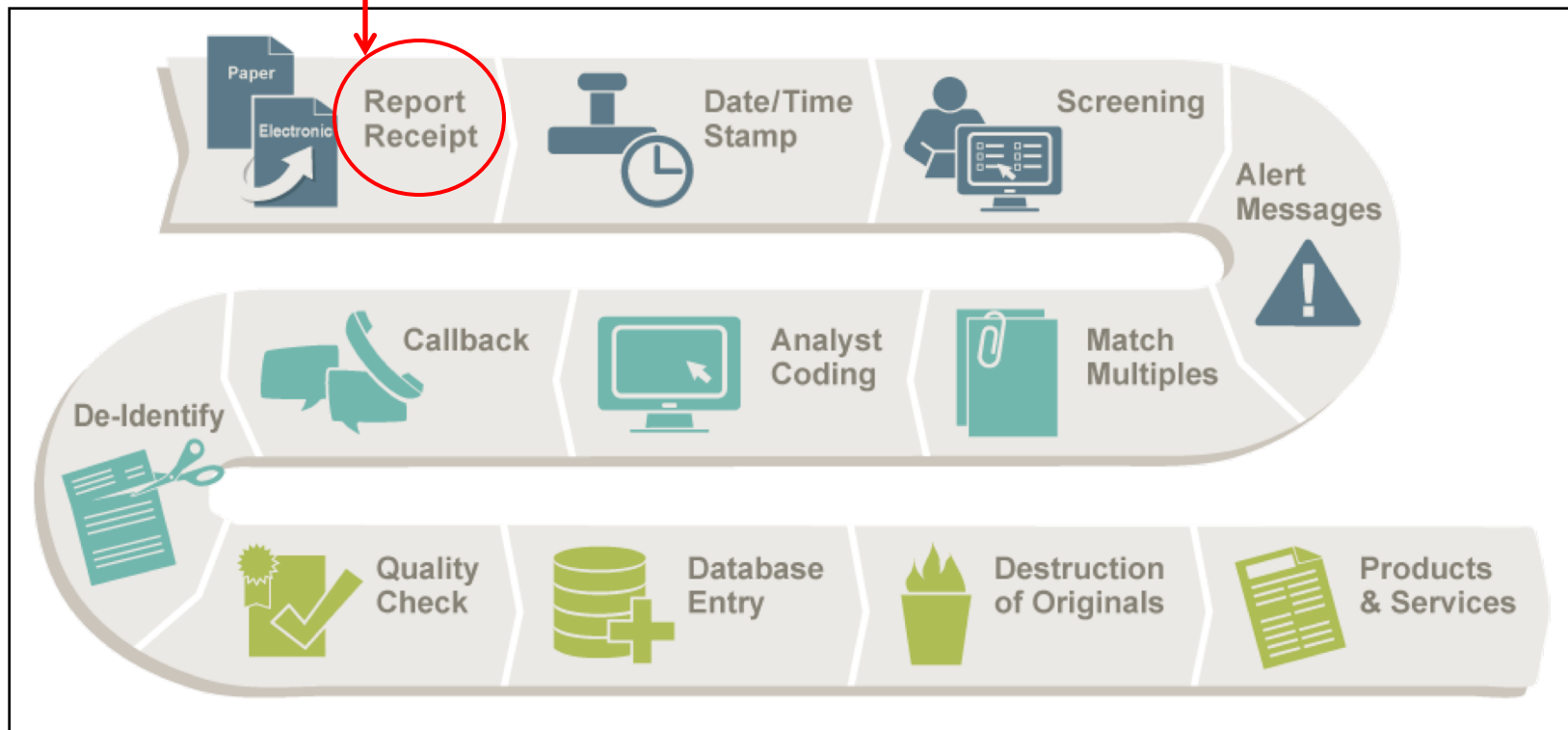


Report Processing Flow



Report Processing Flow

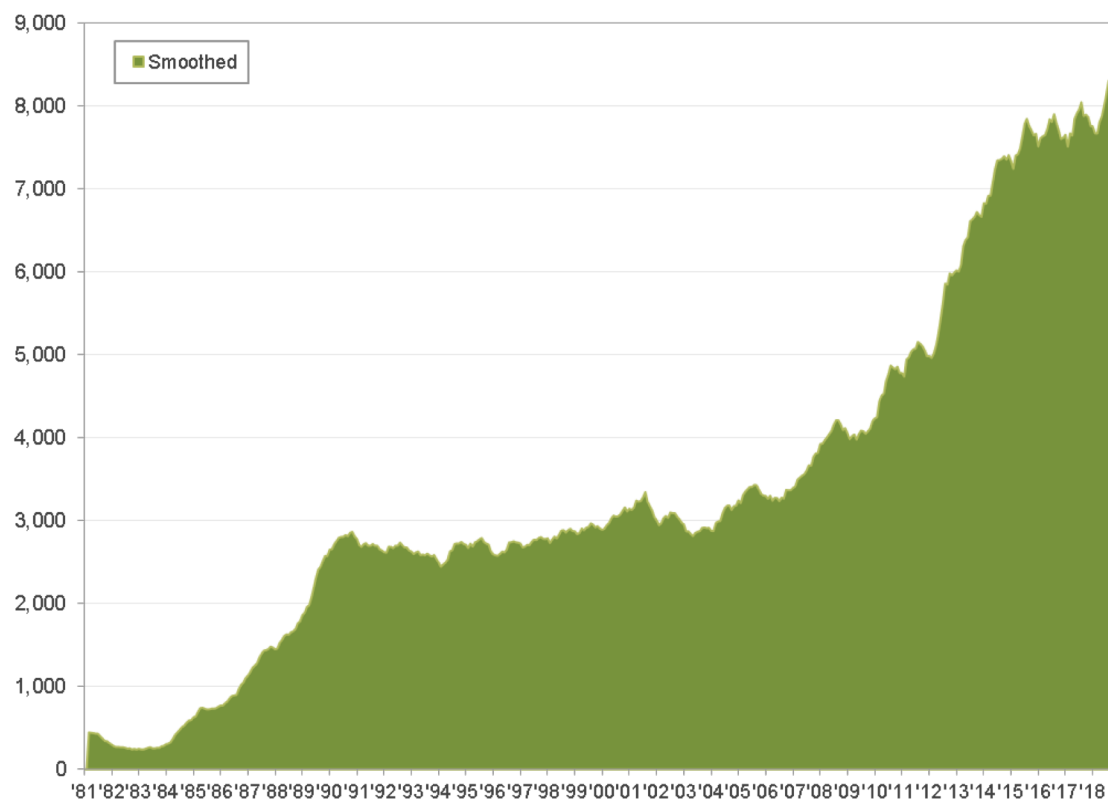
Direct Reports (Electronic and Paper)
ASAP and ATSAP Reports (Electronic and Paper)



ASRS Report Volume Profile

- Over 42 years of confidential safety reporting
- Total report intake for 2017 was **94,302**
- Over 8,172 reports per month, or **389 per working day**
- Current rate estimate for 2018 is over **98,500**

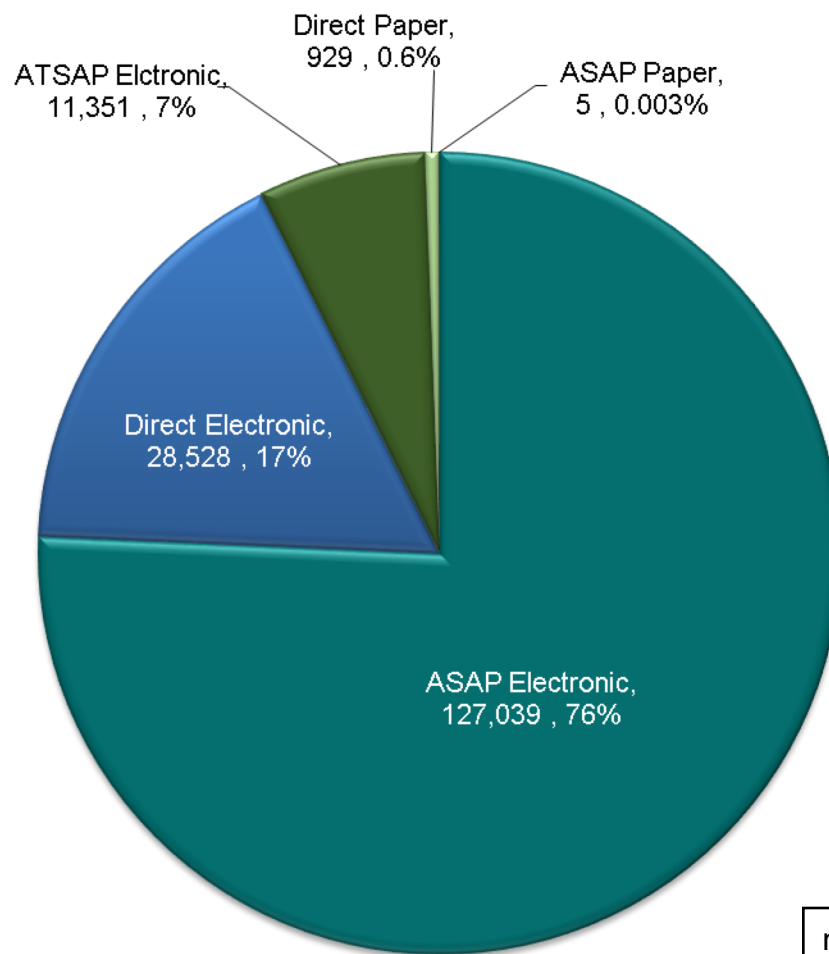
Monthly Intake January 1981 – September 2018



1981 ————— 2018

Report Intake Source (ALL)

January 2017 – September 2018

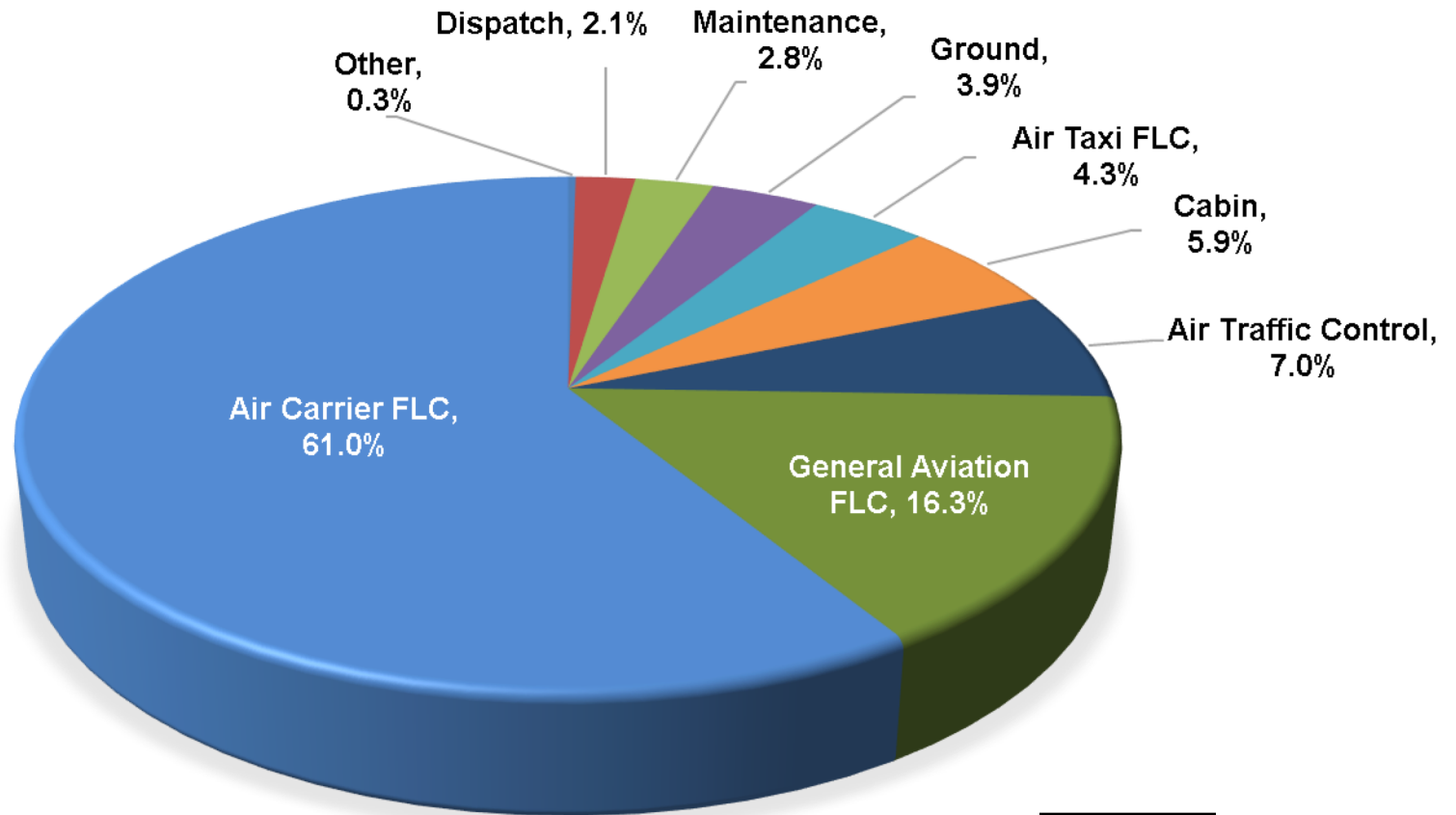


n = 167,852



Incident Reporter Distribution

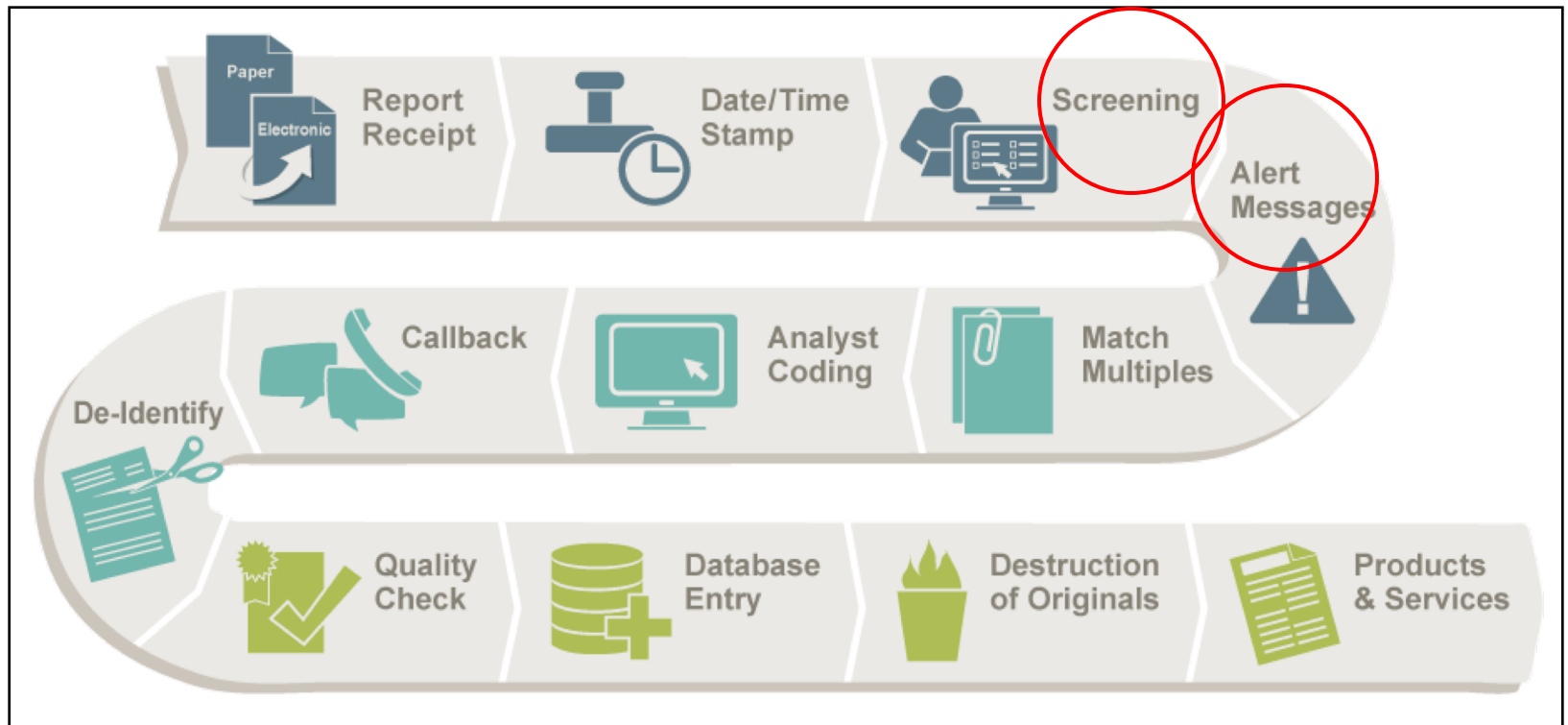
January 2017 – September 2018



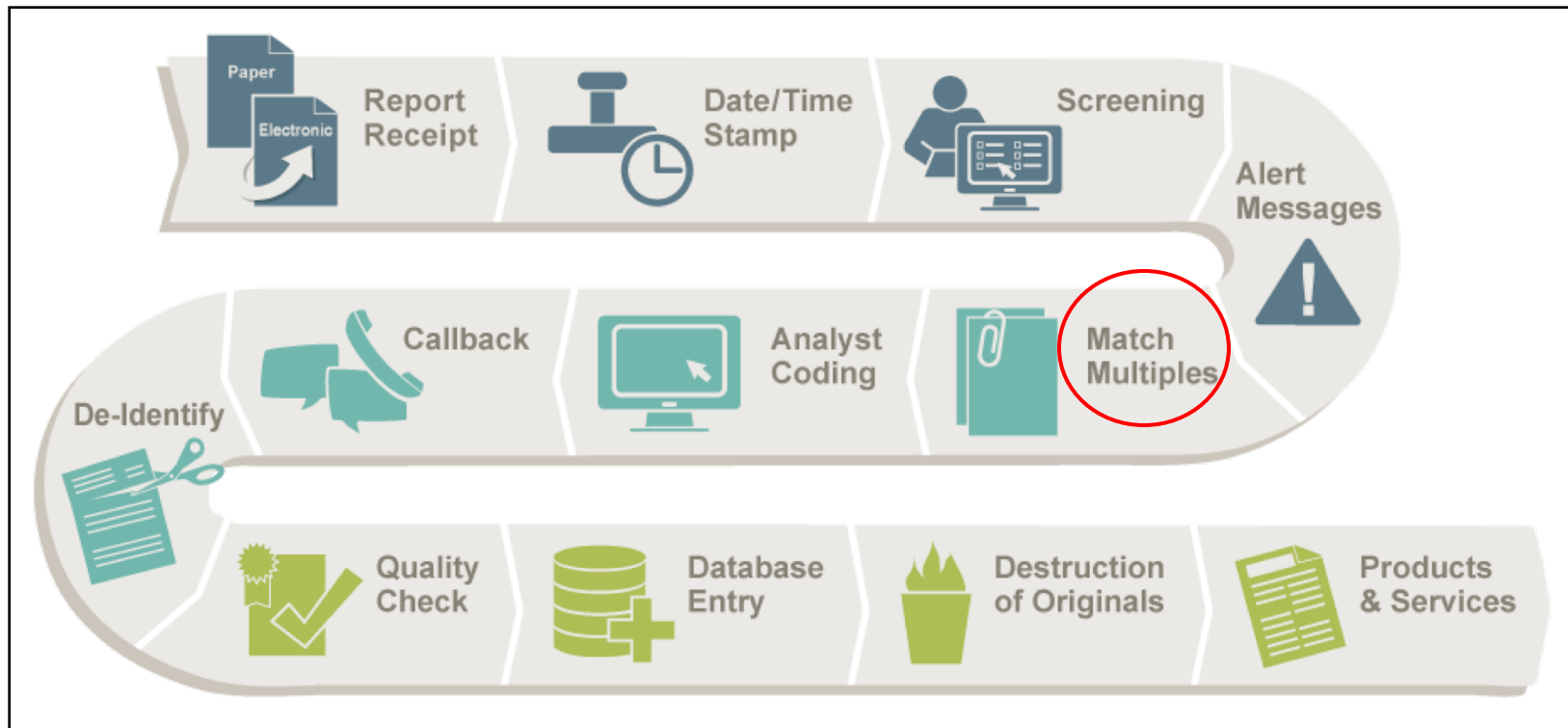
n = 167,852



Report Processing Flow

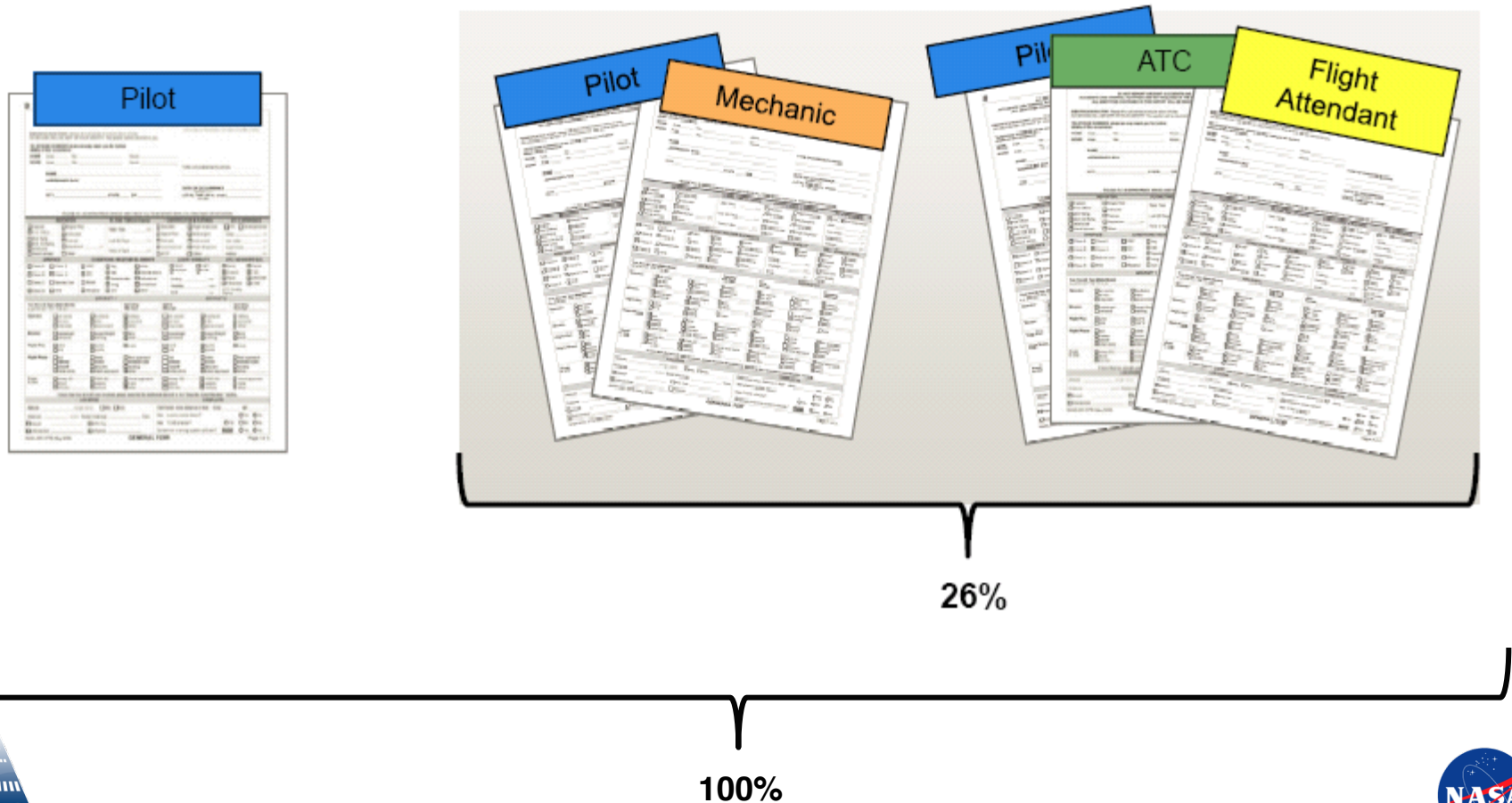


Report Processing Flow

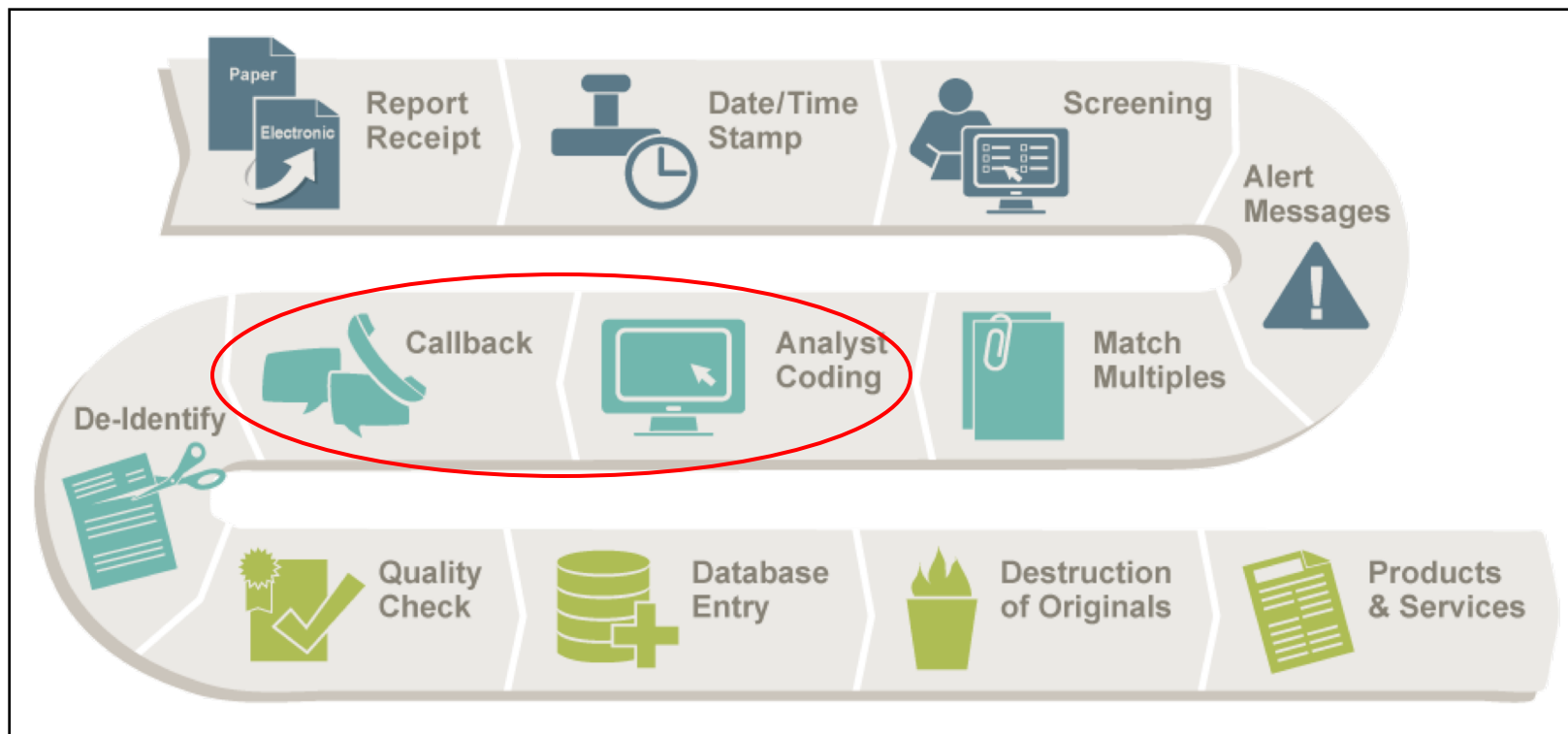


Incidence of ASRS Multiple Reports

- Provides information from more than one person's perspective on a single event



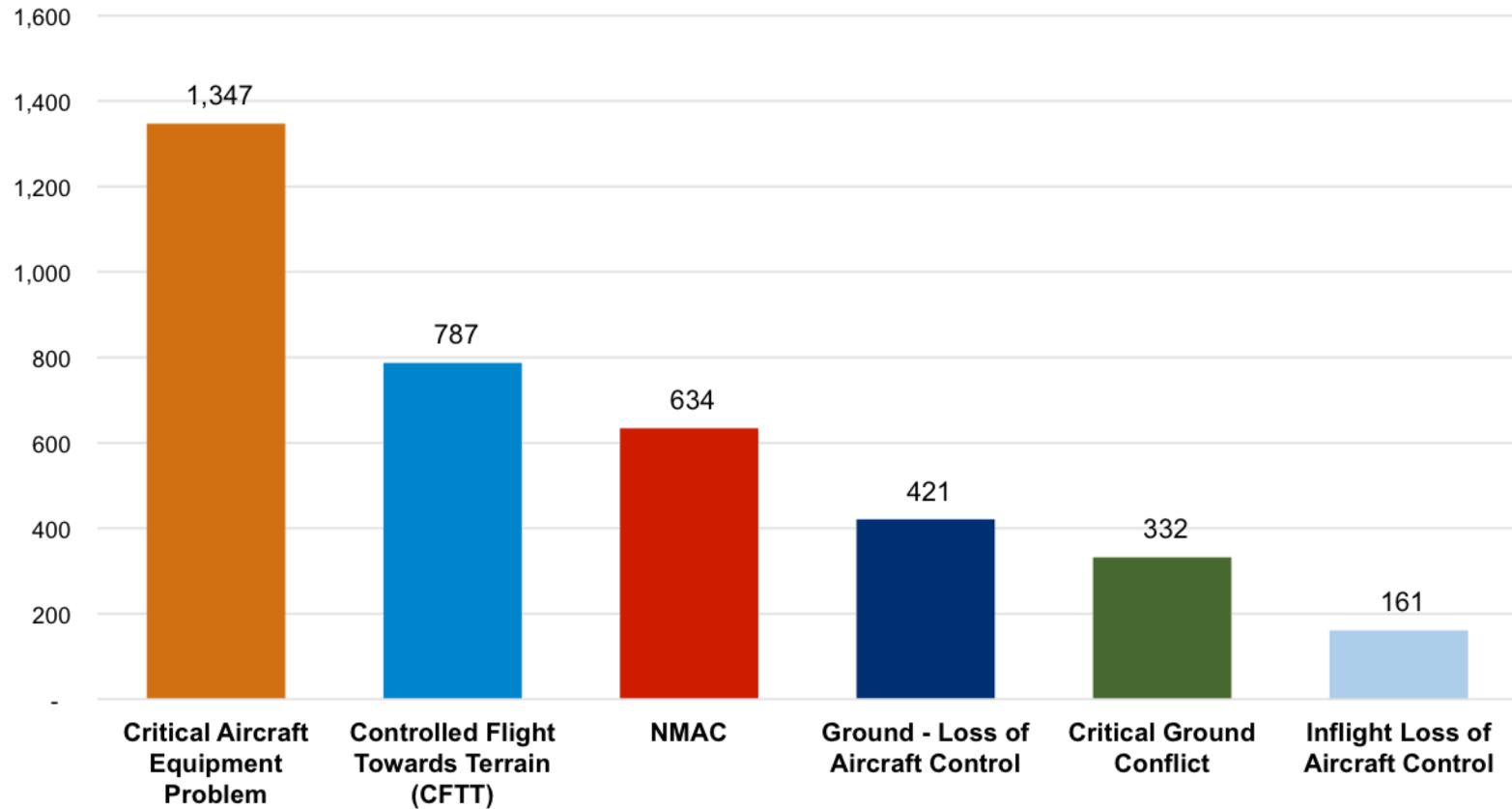
Report Processing Flow



Comprehensive and Time-Tested Coding Taxonomy

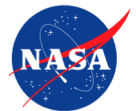
ASRS – Examples of Coded Anomaly Types

January 2017 – September 2018

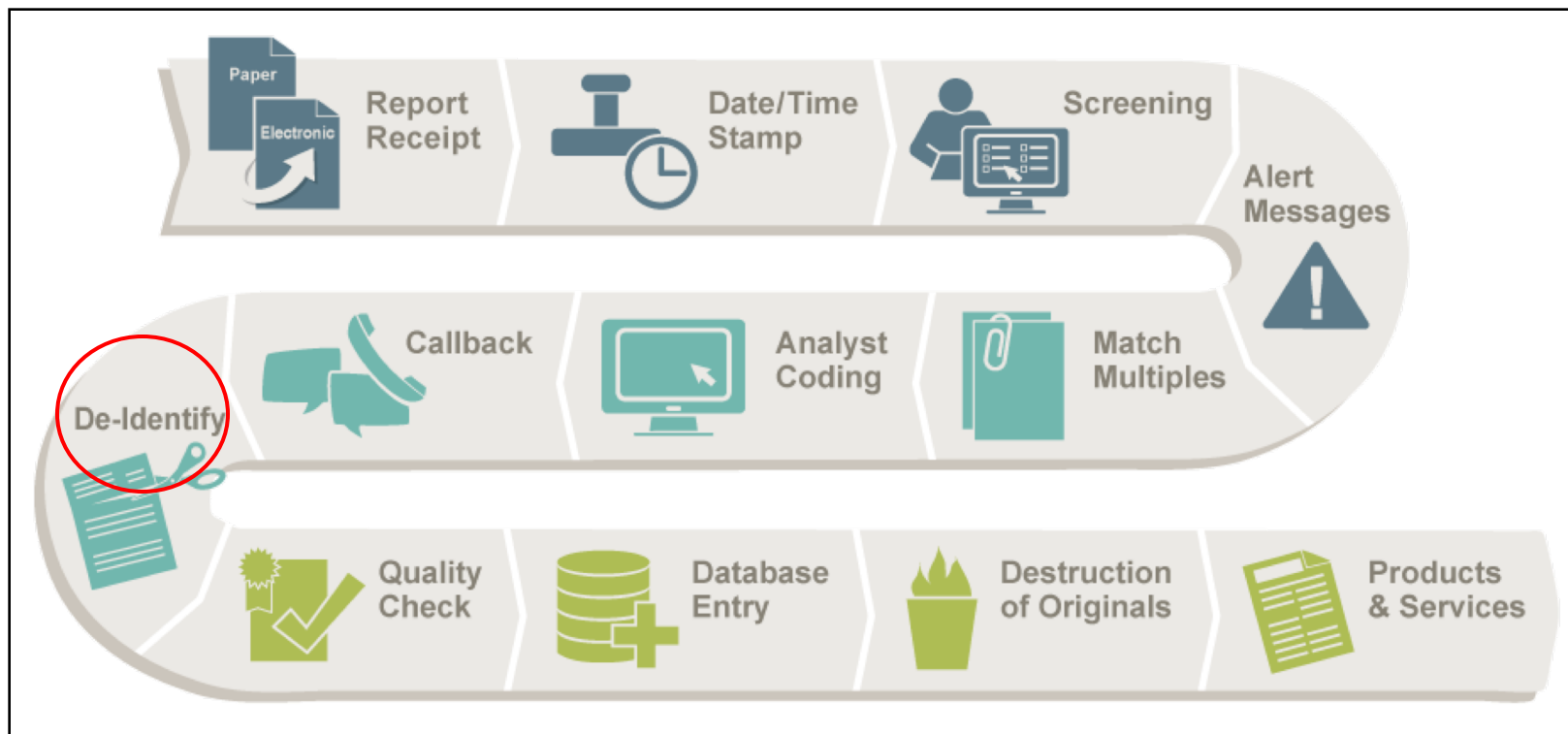


n = 167,852

*Categories are not mutually exclusive.



Report Processing Flow




ASRS Letter to Incident Reporter

- Every report to the ASRS returns an Identification Strip to the mailing address provided
- Manual, context-dependent, de-identification of report narratives and fixed-field codes



National Aeronautics and Space Administration
Ames Research Center
Moffett Field, CA 94035-1000



Reply to Attn: TH: 262-7

TO: Reporters

FROM:

DO NOT REPORT AIRCRAFT ACCIDENTS AND CRIMINAL ACTIVITIES ON THIS FORM. ACCIDENTS AND CRIMINAL ACTIVITIES ARE NOT INCLUDED IN THE ASRS PROGRAM AND SHOULD NOT BE SUBMITTED TO NASA. ALL IDENTITIES CONTAINED IN THIS REPORT WILL BE REMOVED TO ASSURE COMPLETE REPORTER ANONYMITY.

(SPACE BELOW RESERVED FOR ASRS DATE/TIME STAMP)

NASA AMES, MFT. FLD.

IDENTIFICATION STRIP: Please fill in all blanks to ensure return of strip. NO RECORD WILL BE KEPT OF YOUR IDENTITY. This section will be returned to you.

TELEPHONE NUMBERS where we may reach you for further details of this occurrence:

HOME Area _____ No. _____ Hours _____

WORK Area _____ No. _____ Hours _____

NAME _____

ADDRESS/PO BOX _____

CITY _____ STATE _____ ZIP _____

TYPE OF EVENT/SITUATION _____

DATE OF OCCURRENCE _____
(MM/DD/YYYY)

LOCAL TIME (24 hr. clock) _____
(HH:MM)

PLEASE FILL IN APPROPRIATE SPACES AND CHECK ALL ITEMS WHICH APPLY TO THIS EVENT OR SITUATION

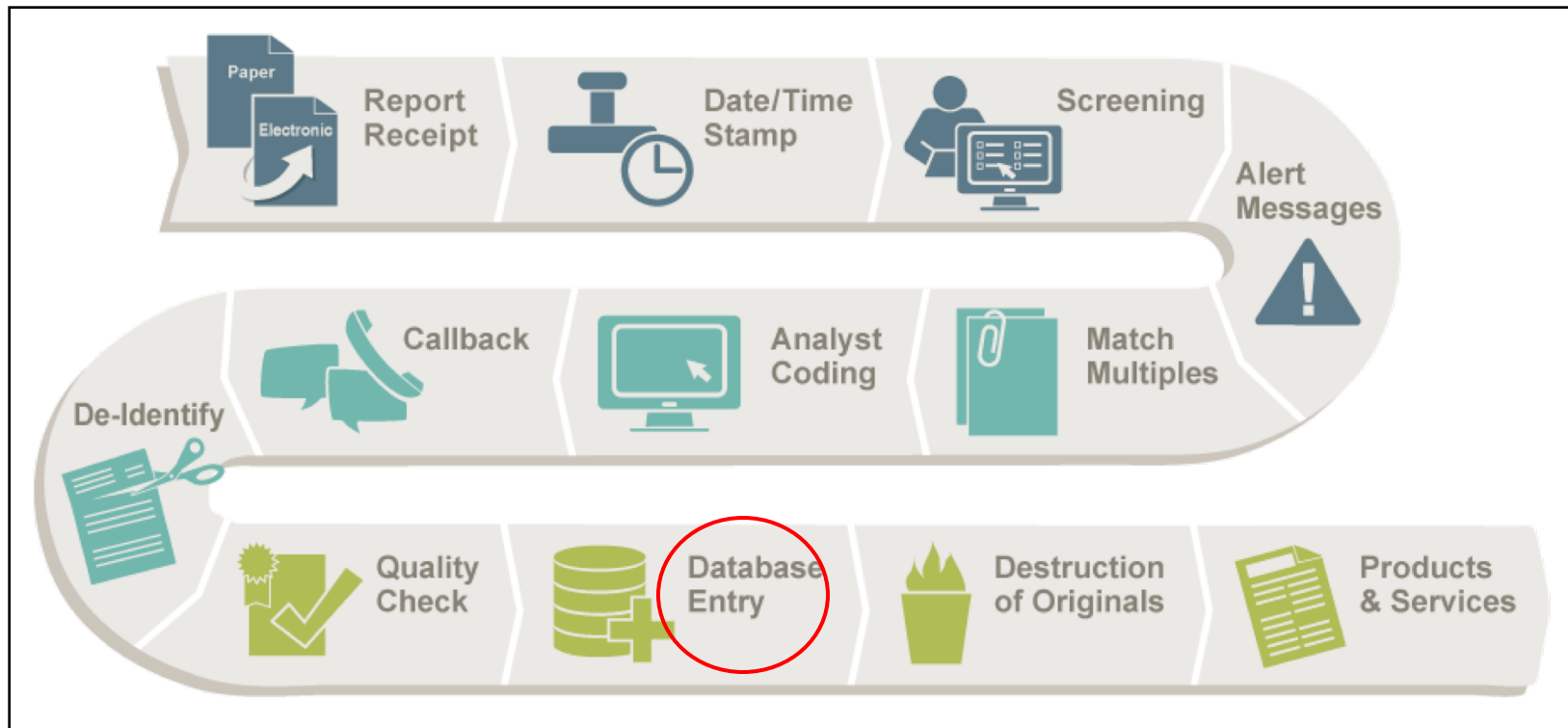
For further action required by you. Thank you very much for your report. For information on the ASRS program and governing documents, please visit our website <http://asrs.arc.nasa.gov>.

Sincerely,

Linda J. Connell

Linda J. Connell, Director
NASA Aviation Safety Reporting System

Report Processing Flow



ASRS Report Records Are Public:

- Direct request to ASRS Office via website “Contact Us”, email, or phone
- Direct Access to Database Online (DBOL)



ASRS Database Online

Direct access to search de-identified reports in the ASRS database is available through **ASRS Database Online (DBOL)** at <https://asrs.arc.nasa.gov/search/database.html>.

The screenshot displays the ASRS Database Online search interface. At the top, there are navigation links: "Begin", "Results", and "View". On the right, there are utility links: "New Search", "Help", "Contact Support", and "ASRS Database Items(pdf)".

How To Search:

Step 1: Click to add search items. Note: Make sure your Pop-up Blocker is off.

Step 2: In "Current Search Items" section, select "Click Here" in a statement and choose items from lookup window.

Search Filters:

- Date & Report Number:**
 - Report Number (ACN) was
 - Date of Incident was between and
- Environment:**
 - Flight Conditions were
 - Lighting was
 - Weather was
- Aircraft:**
 - Federal Aviation Regs (FAR) Part was
 - Flight Plan was
 - Flight Phase was
 - Make/Model was
 - Mission was
- Place:**
 - Location was
 - State was
- Person:**
 - Reporter Organization was
 - Reporter Function was
- Event Assessment:**
 - Event Type was
 - Detector was
 - Primary Problem was
 - Contributing Factors were
 - Human Factors (since 6/09) were
 - Result was

Text: Narrative / Synopsis

Text contains

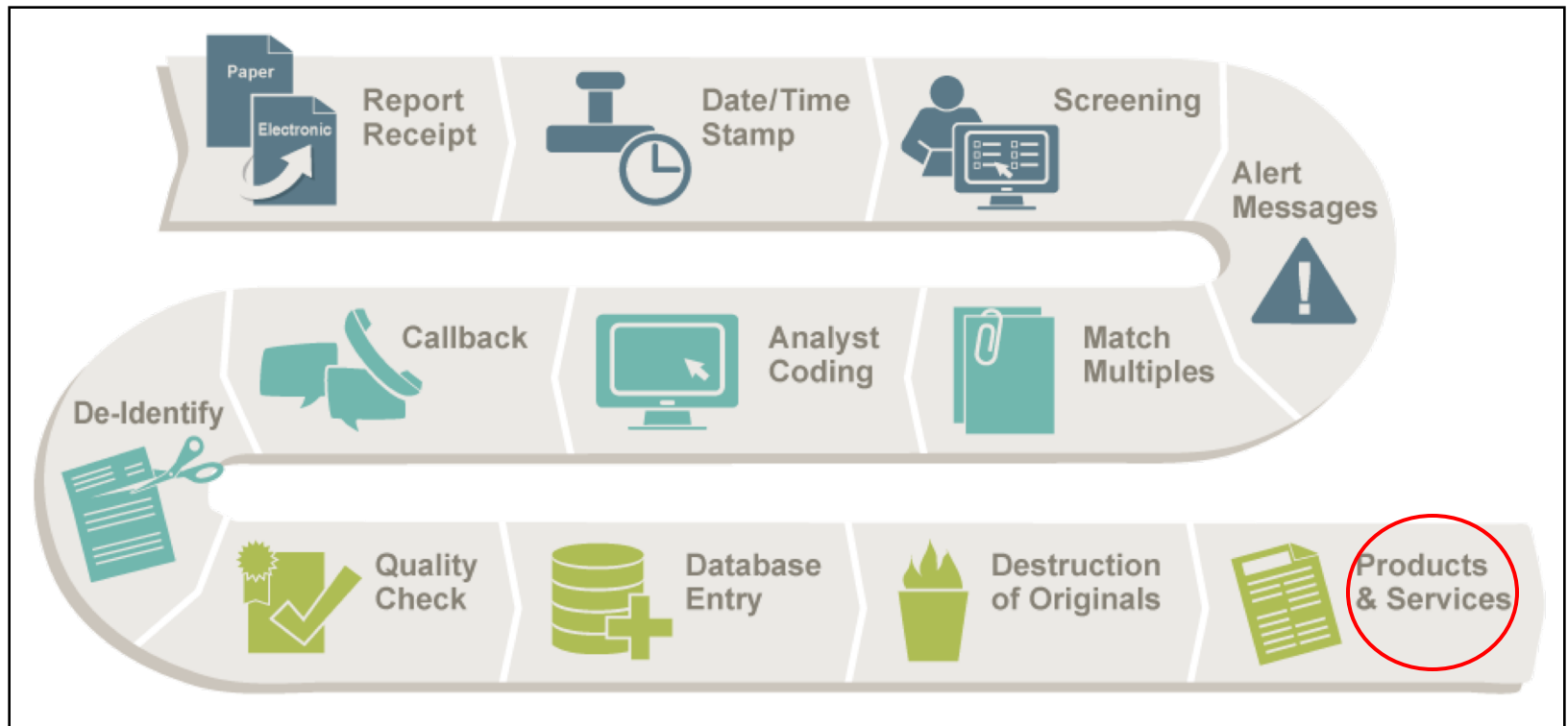
Current Search Items:

Search is empty.

Buttons:

- Over **1,486** queries are completed each month
- More than **211,170** DBOL queries completed since its launch in July 2006
- FAA is the most frequent requestor, also academia, research, government, air carriers

Report Processing Flow



ASRS Products

- These products and services fulfill the program's mission to disseminate safety data



ALERT MESSAGES

Safety information issued to organizations in positions of authority for evaluation and possible corrective actions.



QUICK RESPONSES

Rapid data analysis by ASRS staff on safety issues with immediate operational importance generally limited to government agencies.



ASRS DATABASE

The public ASRS Database Online and data available in Database Report Sets or Search Requests full filled by ASRS staff.



CALLBACK NEWSLETTER

Monthly newsletter with a lessons learned format, available via website and email.



SPECIAL STUDIES

Studies/Research conducted on safety topics of interest in cooperation with aviation organizations.



- + Monthly FAA Telecons
- + Semi-Annual Briefings at Aviation Industry Symposium





Credibility



Fostering Credibility: Encouraging Reporting

- **It is safe to report**
 - National reputation: NASA operates ‘for the public good’
 - Strong immunity and legal provisions
 - Secure data confidentiality protections, careful de-identification
- **Every report matters**
 - ALL reports read by aviation expert analysts
 - Acknowledge receipt
 - Analysts call reporters for clarity (more frequently, more trust)
 - Online database, Newsletter (“reports from people just like me”)
- **Every person plays a role in Aviation Safety**
 - Report to prevent someone else from making the same mistake



Credibility: Encouraging Reporting

ASRS has been building credibility for over 42 years through:

- Flight Schools and Flight Instructors
- Aircraft Owners and Pilots Association (AOPA)
- Airlines
- Labor Organizations (ALPA, APA)
- Promotional Events (Flight Shows, Airport Open Houses and Aviation Safety Seminars)

It is an on-going process.

Challenges: General Aviation, Cabin, Maintenance, Ground, Dispatch



Credibility: Advocating for ASRS

- **Direct alerting** (What is relevant? Who needs to know?)
 - ASRS aviation experts screen and triage every report
- **ASRS provides a system-wide perspective**
 - Matches multiple reports into a single event record provides a richer picture
 - Formal chain of communication to share lessons learned from one airline to another, from one pilot to all etc.
- **ASRS adds value -- from data to information**
 - Safety products (alerts, search requests, special studies, newsletters)
 - Collaboration with Industry / Airlines / FAA / NTSB
- **ASRS data helps us understanding WHY**



Contact Information

Becky Hooley, Director
NASA Aviation Safety Reporting System (ASRS)

Becky.L.Hooley@nasa.gov

(650) 604-2399

