



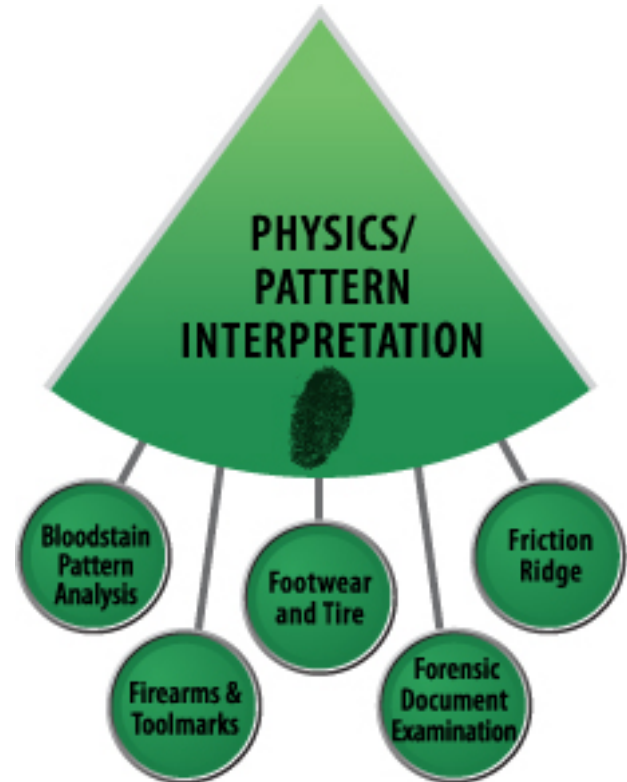
Physics and Pattern Evidence Scientific Area Committee

Chair: Melissa Gische, FBI
IAI — July 2018



Pattern SAC Leadership

- Officers
 - Chair: Melissa Gische, FBI Laboratory
 - Vice Chair: R. Austin Hicklin, Noblis
 - Executive Secretary: Thomas Busey, Indiana University, Bloomington
- Subcommittee Chairs:
 - Bloodstain Pattern Analysis: Toby Wolson, Retired (Miami-Dade Police Department)
 - Firearms and Toolmarks: Todd Weller, Weller Forensics
 - Footwear and Tire: Michael Gorn, FBI Laboratory
 - Forensic Document Examination: Gerry LaPorte, NIJ
 - Friction Ridge: Henry Swofford, Defense Forensic Science Center





Pattern SAC Members and Liaisons

- Members
 - David Baldwin, Special Technologies Laboratory, USDOE
 - Ted Burkes, Federal Bureau of Investigation
 - Lesley Hammer, Hammer Forensics
 - Paul Kish, Paul Erwin Kish Forensic Consultant & Associates
 - Hal Stern, University of California, Irvine
 - David Stoney, Stoney Forensic, Inc.
 - John Vanderkolk, Indiana State Police Laboratory Division
- Ex-Officio Members
 - Liaison to Human Factors Committee: Rick Lempert, University of Michigan
 - Liaison to Legal Resource Committee: David Kaye, Pennsylvania State School of Law
 - Liaison to Quality Infrastructure Committee: Erin Henry, Oklahoma State Bureau of Investigation





Pattern SAC: Role

- Provide direction and oversight for 5 subcommittees
 - Firearms & Toolmarks
 - Footwear and Tire
 - Friction Ridge
 - Questioned Documents
 - Bloodstain Pattern Analysis
- Interface with the resource committees
 - Human Factors
 - Legal Resource
 - Quality Infrastructure
 - (OSAC-wide Forensic Statistics Task Group)
- Communicate activities, progress, recommendations
- Review and approve standards and guidelines
- Coordinate research priorities





AAFS Standards Board (ASB)

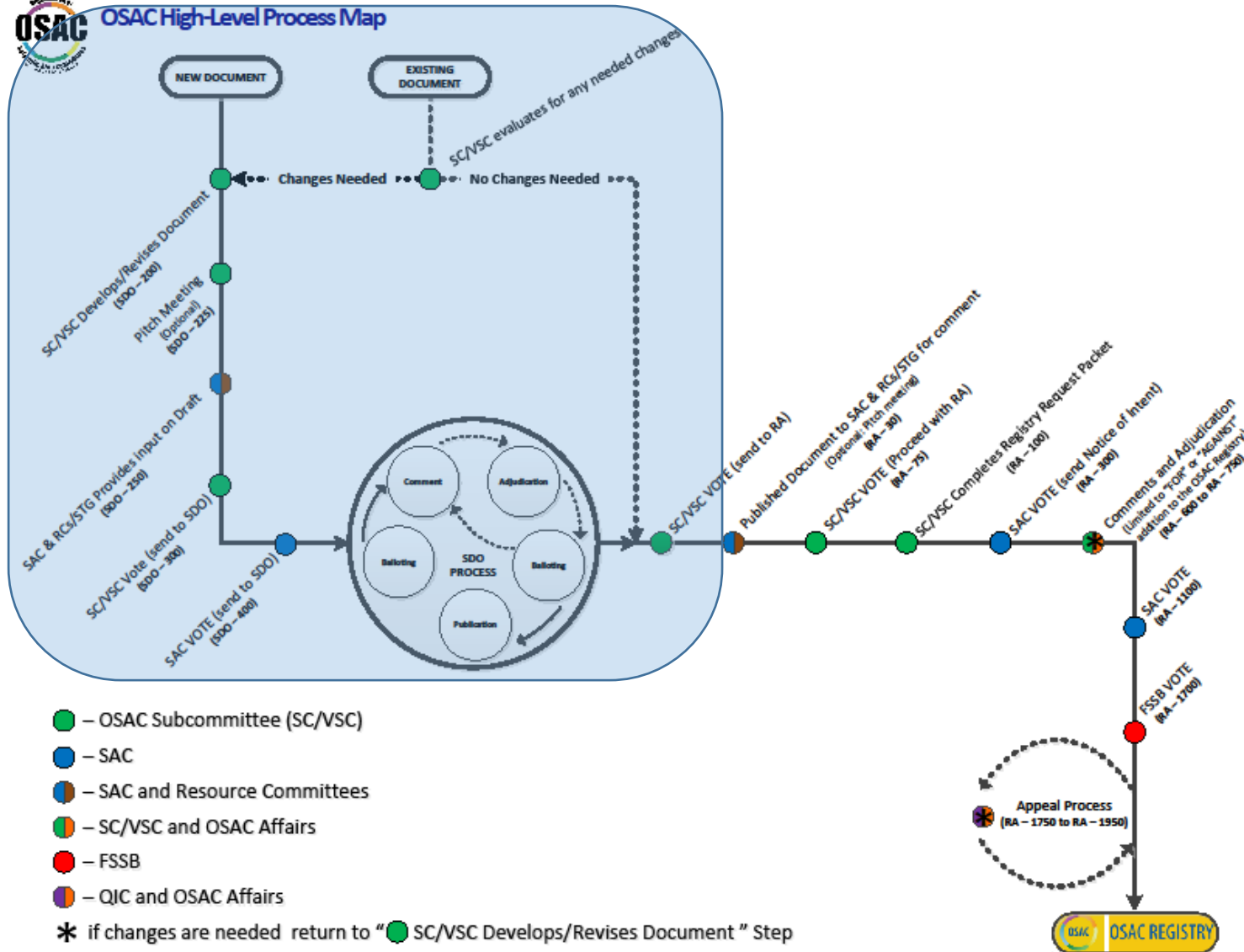
Physics and Pattern Evidence SAC subcommittees are using the AAFS Standards Board (ASB) as the Standards Development Organization (SDO) for completed documents. The ASB has three types of documents.

- Standards (S)
- Technical Reports (TR)
- Best Practice Recommendations (BPR)





OSAC High-Level Process Map



Version 1/ Date of Issue: May 14, 2018 / Issuing Authority: Forensic Science Standards Board (FSSB)



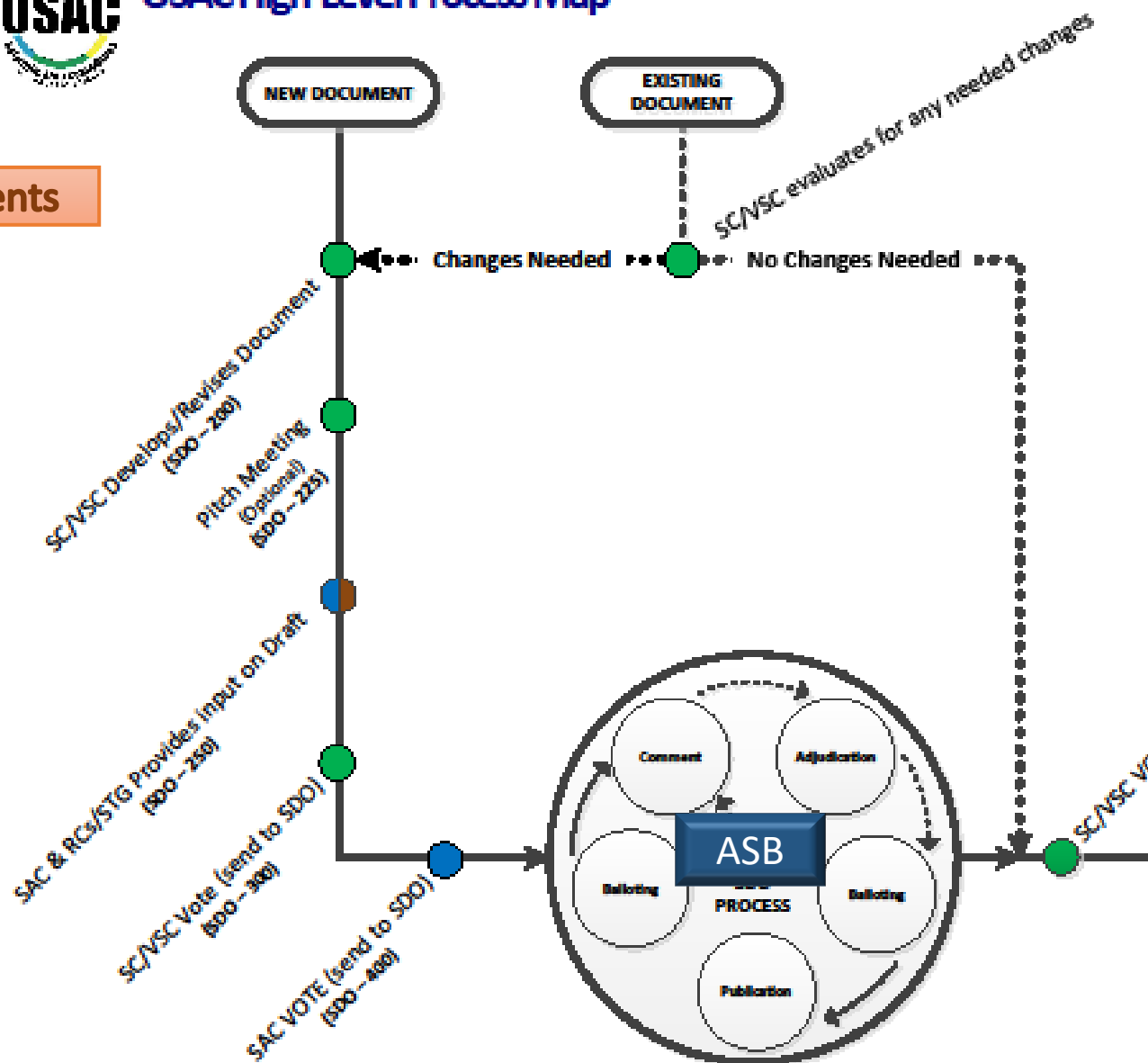
PSAC documents



OSAC High-Level Process Map



51 documents



SC Develops/Revises Document



- BPA: Conclusion statements for bloodstain pattern identifications
- BPA: Conclusion statements for BPA reconstructions
- BPA: BPA taxonomy for use in classification of bloodstain patterns
- BPA: Guidelines for a BPA Certification Program
- BPA: Guidelines for Developing Standard Operating Procedures for Bloodstain Pattern Analysis
- BPA: Guidelines for Proficiency Testing in Bloodstain Pattern Analysis
- BPA: BPA process map

- FR: ACE-V Process Map
- FR: Examination Method
- FR: Analysis
- FR: Comparison/Evaluation
- FR: Verification
- FR: Technical Review
- FR: Terminology
- FR: AFIS Best Practices
- FR: Conflict Resolution
- FR: Consultation
- FR: Reporting Results

- FWT: Chemical Enhancements of Footwear and Tire Impressions
- FWT: Detection of Footwear and Tire Track Evidence at Crime Scenes
- FWT: Scope of Work for Footwear and Tire Examiners
- FWT: Articulation of Conclusions in Footwear and Tire Report Writing and Testimony
- FWT: Best Practice Recommendation for the Lifting of Footwear and Tire Impression Evidence



SC Develops/Revises Document



- FDE: Standard Guide for Minimum Training Requirements for Forensic Document Examiners (Standard Training Program for Forensic Document Examiners)
- FDE: Standard Terminology Relating to The Examination of Questioned Documents
- FDE: Standard for Source Conclusions
- FDE: Forensic Document Examination Bibliography
- FDE: Standard for Collection of Known Writing
- FDE: Standard for Initial Assessment of Questioned Document Evidence
- FDE: Standard for the Examination of Writing Inks
- FDE: Non-destructive Examination of Paper
- FDE: Examination of Documents Produced with Liquid Ink Jet Technology
- FDE: Examination of Documents Produced with Toner Technology
- FDE: Examination of Typewritten Items
- FDE: Standard for the Examination of Rubber Stamp and Stamped Impressions
- FDE: Standard for the Examination of Dry Seals and Dry Seal Impressions
- FDE: Examination of Financial, Identification, and Other Authorized Documents
- FDE: Standard for the Examination of Charred Documents
- FDE: Standard for the Examination of Liquid Soaked Documents

- FATM: Standard Test Method for the Physical Examination and Classification of Firearms
- FATM: Standard Test Method for Function/Operability Testing of Firearms
- FATM: Virtual Microscopy
- FATM: Uncertainty for Trigger Pull Measurement
- FATM: Statistical Standards for Source Identification and Related Quantities
- FATM: Minimum Requirements for an Examiner Training Program
- FATM: Standard Range of Source Conclusions and Criteria for Firearm and Toolmark Examinations
- FATM: Standard for Supporting Documentation of Source Conclusions
- FATM: Expression of Source Conclusions
- FATM: Verification of Source Conclusions
- FATM: OSAC Subcommittee on Firearms and Toolmarks Glossary
- FATM: Firearms Comparison Process Map



PSAC documents

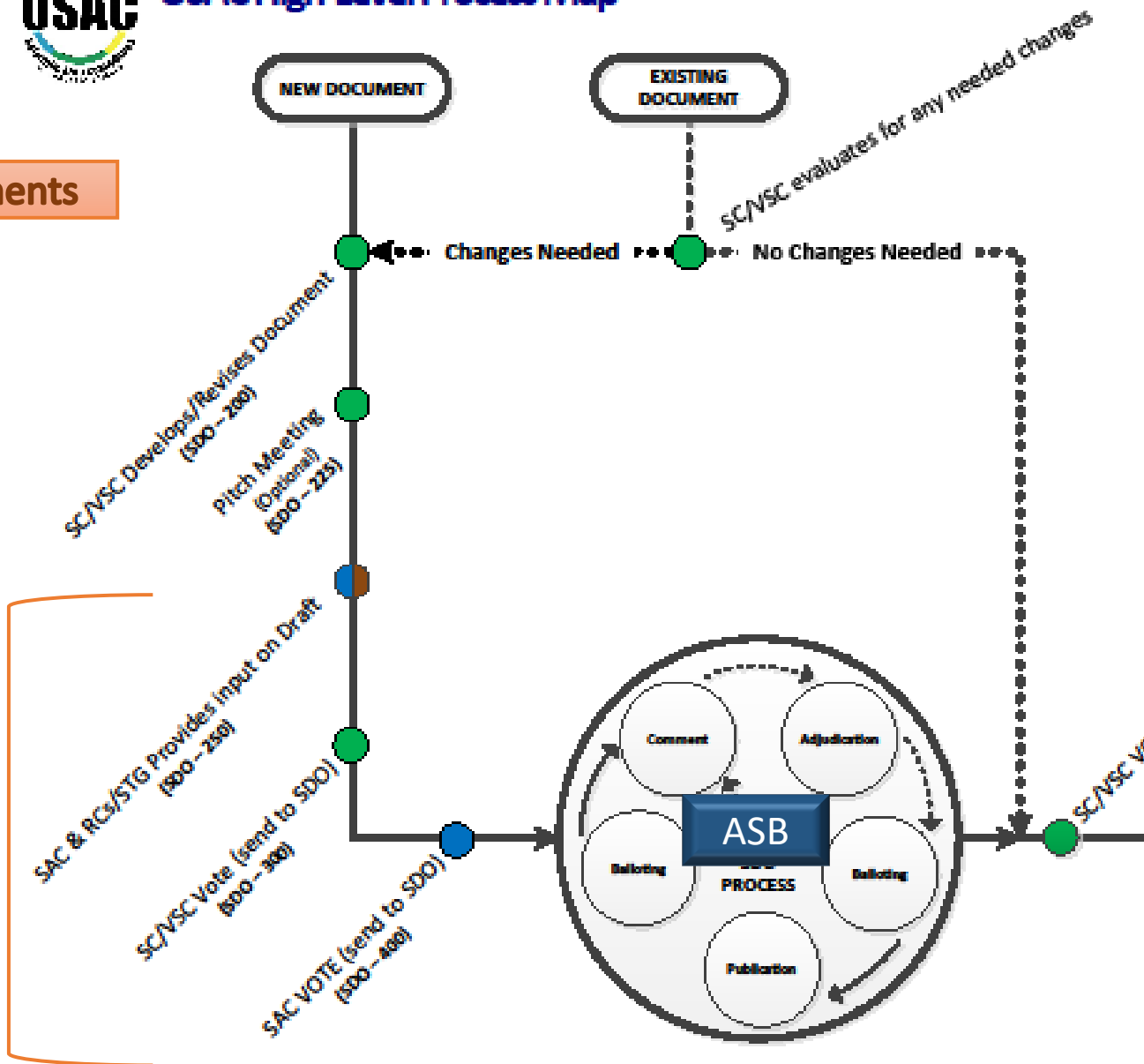


OSAC High-Level Process Map



51 documents

4 documents



Working with PSAC and RCs

SDO-250: SAC/RCs provide comments

- FATM: Standard Test Method for the Examination and Testing of Firearms

SDO-300: SC comment adjudication/vote

- FWT: Guide for the Casting of Footwear and Tire Impression Evidence at the Crime Scene
- FWT: Forensic Documentation and Photography of Footwear and Tire Impressions at the Crime Scene
- FDE: Standard for Examination of Handwritten Items

PSAC documents



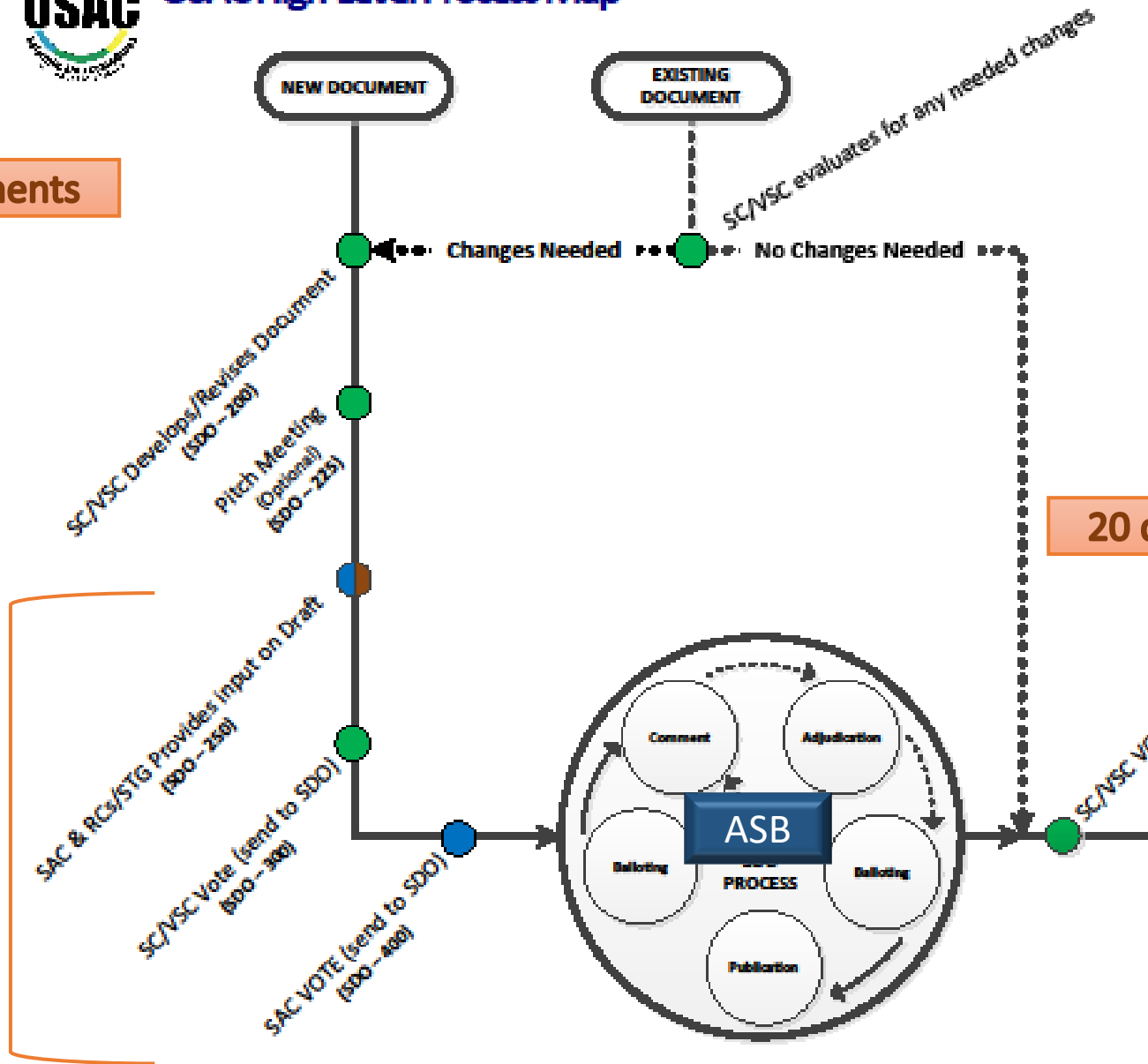
OSAC High-Level Process Map



51 documents

4 documents

20 documents



At SDO (ASB):



- BPA: Guidelines for Report Writing in Bloodstain Pattern Analysis
- BPA: Guidelines for the Validation of New Procedures in Bloodstain Pattern Analysis
- BPA: Guidelines for the Minimum Education and Training Requirements For Bloodstain Pattern Analysts
- BPA: Guidelines for a Quality Assurance Program in Bloodstain Pattern Analysis

- FR: Guideline for the Articulation of the Decision-Making Process Leading to an Expert Opinion of Source Identification in Friction Ridge Examinations
- FR: Standard for Friction Ridge Examination Training
- FR: Standard for Friction Ridge Examination Conclusions

- FWT: Guideline for the Preparation of Test Impressions from Footwear and Tires
- FWT: Proficiency Testing for Footwear and Tire Examinations
- FWT: Minimum Qualifications and Training for Footwear and Tire Examiner
- FWT: Terminology for Footwear and Tire Impressions



At SDO (ASB):



- FDE: Scope of Expertise in Forensic Document Examination
- FDE: Standard for Examination of Indented Writing
- FDE: Standard for Examination of Alterations and Obliterations

- FATM: Standard for Topography Comparison Software for Firearm and Toolmark Analysis
- FATM: Standard for Implementation of 3D Technologies in Forensic Laboratories for Firearm and Toolmark Analysis
- FATM: Standard for 3D Measurement Systems and Measurement Quality Control for Firearm and Toolmark Analysis
- FATM: Standard for Barrel and Overall Length Measurements for Firearms, includes guidelines and example spreadsheets for calculating uncertainty
- FATM: Minimum Education Requirements for Firearm and Toolmark Examiner Trainees
- FATM: Standard Guideline/Best Practice for the Safe Handling of Firearms and Ammunition



PSAC documents



OSAC High-Level Process Map



51 documents

NEW DOCUMENT

EXISTING DOCUMENT

SC/VSC evaluates for any needed changes

Changes Needed No Changes Needed

SC/VSC Develops/Revises Document (500-200)
Pitch Meeting (Optional) (500-225)

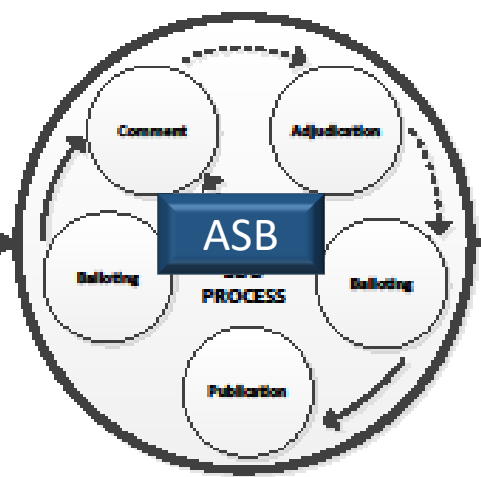
SAC & RCs/STG Provides Input on Draft (500-250)

SC/VSC Vote (send to SDO) (500-300)

SAC VOTE (send to SDO) (500-400)

20 documents

4 documents



1 document





OSAC Registry Approval

- BPA: ASB Technical Report 033, *Terms and Definitions in Bloodstain Pattern Analysis*, First Edition, 2017
(https://asb.aafs.org/wp-content/uploads/2017/11/033_TR_e1_2017.pdf)



Other Work

- Interdisciplinary Virtual Subcommittees
- Foundations
- Roadmaps
- Review RC Technical Series Publications
- Research Needs
- Terminology and Lexicon
- Process Maps



IAI Presentations

Day	Date	Time	SC	Speaker
Wednesday	August 1	1:00 PM	Friction Ridge	Henry Swofford
Thursday	August 2	11:05 AM	Footwear and Tire	Stephen Greene
Friday	August 3	3:00 PM	Bloodstain Pattern Analysis	Toby Wolson





Questions?

<https://www.nist.gov/topics/forensic-science/organization-scientific-area-committees-osac>

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