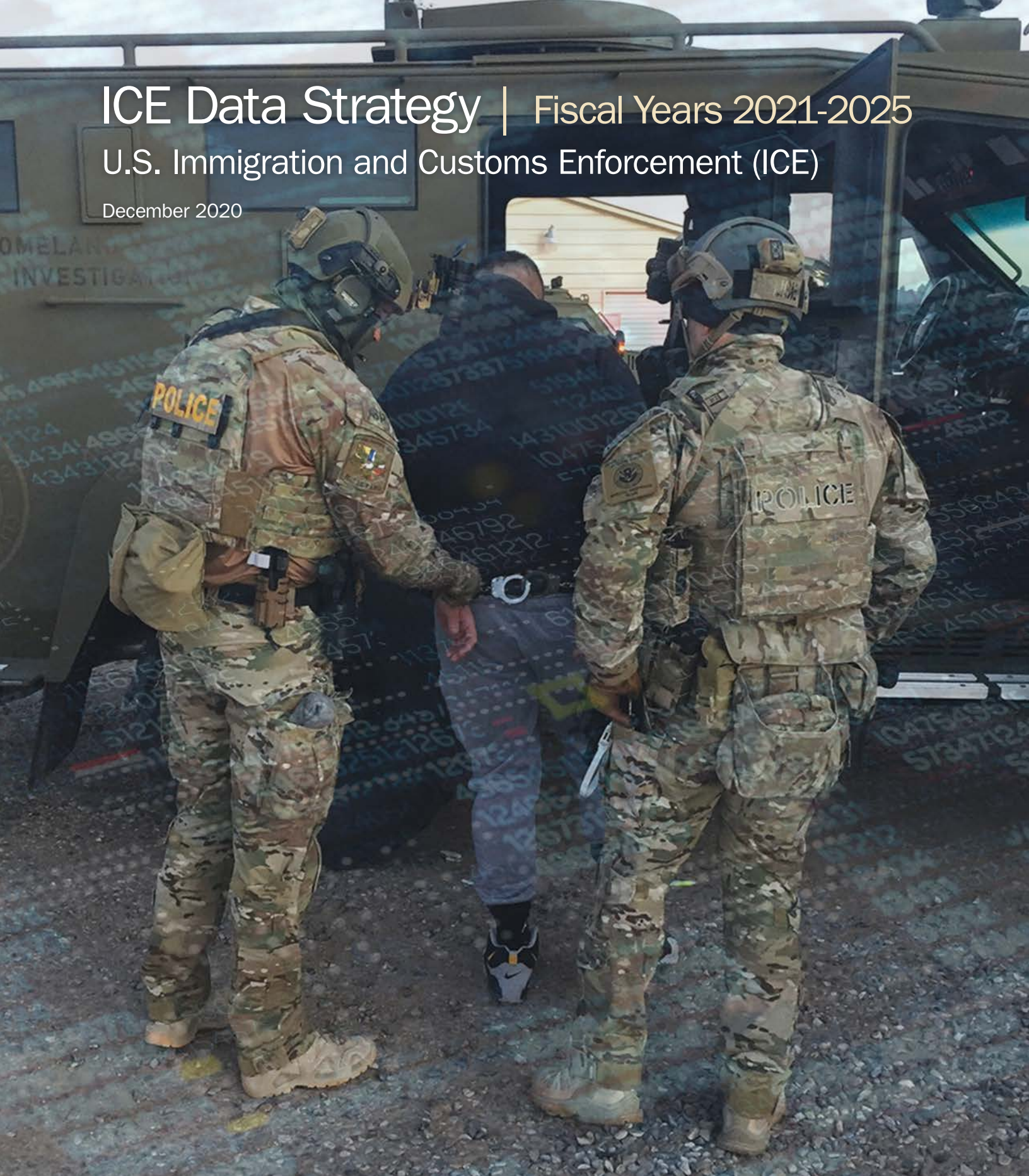


ICE Data Strategy | Fiscal Years 2021-2025

U.S. Immigration and Customs Enforcement (ICE)

December 2020



Homeland
Security

Letter From the Chief Data Officer

I am pleased to present the new U.S. Immigration and Customs Enforcement (ICE) Data Strategy. Data plays an essential role to our mission execution and in the decisions we make.

Rapid advances in technology continue to cause a deluge of volume, velocity, and variety of data and we must enable operational advantage by becoming an organization that orients its data through common policies, processes, and standards. Caring for data needs to be intentional to realize improvements in:

- How easily and quickly relevant data is found through discovery mechanisms;
- How quickly the data is shared;
- To what extent the data is trusted; and
- How we improve decision making based on quality and accessible data.

This ICE Data Strategy is the first step for organizing and governing the way data is managed across ICE through a common shared vision, set of goals, principles, and outcomes. With an operational focus, it provides the direction for holistically instituting common data governance and management practices and initiatives.

Each organizational unit at ICE benefits by actively participating in caring for our data and data assets and managing them as high value enterprise assets. Having mechanisms in place for ICE units to identify common data and information issues and collaboratively resolve them is key to ensuring everyone having confidence in data and information targeted for sharing and decision support.

This data strategy, tied to the ICE Strategic Plan for 2021-2025, provides the vision and the framework to address strategic issues that affect our ability to collect, analyze, produce, and disseminate information relevant to the ICE mission. With this data strategy we are establishing a guiding conceptual framework, the Investigative Information Sharing Environment (I2SE), that will institutionalize information sharing as a primary business process of ICE, and help rationalize, harmonize, and standardize the policies, business processes, data standards and architectures, and systems used to share data and information across ICE and with ICE's mission partners. An at-a-glance version of the data strategy is provided in [Appendix A](#).

This data strategy will be reviewed periodically to ensure it still aligns with the mission/business direction of ICE. Successful implementation of this data strategy will require the collective support and cooperation of all roles impacted to ensure the vision for ***“the right data to the right people at the right time in the right way”*** becomes a reality.



Kenneth N. Clark, Ph.D.
Chief Data Officer
U.S. Immigration and Customs Enforcement





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1. Introduction

The focus of the ICE Data Strategy is on building the Investigative Information Sharing Environment (I2SE) with the data capabilities needed to support mission-focused data and information sharing across ICE and with ICE mission partners (intra-agency, State/local/tribal, private sector and international).

The need for this data strategy is driven by:

- Congressional and Executive branch interest in using data to enhance ICE operations;¹
- Technological upgrades to leverage datasets for supporting analysis; and
- Operational imperatives to identify and access relevant datasets in a timely manner to enhance mission execution.

In order to meet these drivers, ICE must address the common challenges around data and information sharing which are the difficulty to find the right mission-critical data, inability to access it, and difficulty in using and sharing data and information.

Establishing the capacity for unified and consistent data and information sharing is critical to ICE

mission success in order to:

- Overcome existing barriers to data sharing such as, but not limited to, unlocking data hidden in isolated silos (internal and external to ICE), data access challenges, and technical challenges that hinder data and information sharing (e.g., How can law enforcement investigative data be better positioned for discovery and sharing);
- Ensure that data and information are consistently governed, standardized, protected, and managed as valued assets across the I2SE using a holistic approach engaging mission and technical roles in varying degrees to streamline processes, share expertise, and solutions; and
- Improve the quality of data and information for more informed decision and policy making. These issues can be resolved through data quality and data governance activities.

Solving these data challenges takes more than tools and information technology (IT) solutions. Challenges like these are key motivators for establishing core data and information capabilities that are described in this data strategy.

1 GAO-20-596 Immigration Detention: ICE Should Enhance Its Use of Facility Oversight and Management of Detainee Complaints



1.1 Purpose and Scope

The purpose of this data strategy is to improve all activities used in organizing and governing the way data is managed across ICE, the Department, and with ICE mission partners through a common set of goals, principles, and information sharing outcomes as illustrated in figure 1. This strategy supports information sharing efforts with stakeholders to include Federal partners (e.g., Department of Justice), criminal justice partner agencies at state and local levels, international law enforcement, and other data partners. The data shared among our communities and partners falls into four information categories:

- **Law Enforcement**—Information collected in the course of or related to preliminary, open,

pending, or closed administrative, criminal, or civil investigations or enforcement activities.

- **Homeland Security**—Information related to the threat of terrorist activity; the ability to prevent, interdict, or disrupt terrorist activity; the identification or investigation of a suspected terrorist or terrorist organization; or the ability to respond to a terrorist act.
- **Immigration Administration**—Information supporting the logistical and administration activities used to manage the nation’s civil immigration detention and removal system.
- **ICE Business Operations**—Information necessary for effectively and efficiently running the daily mission support activities of ICE.

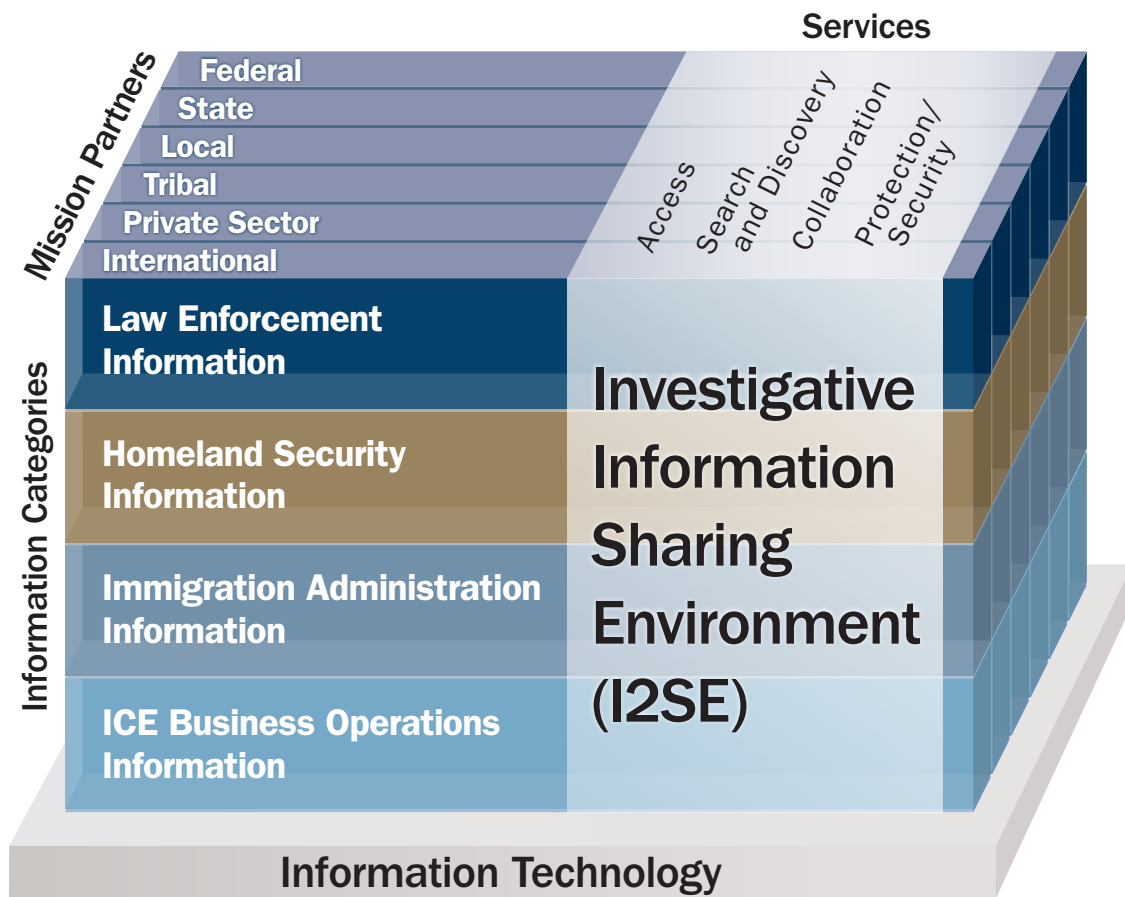


Figure 1—Investigative Information Sharing Environment

2. Data Strategy Vision

The following vision statement and tagline serve as the theme and aspiration for the entire ICE Data Strategy:

*“ The right data to the right
people at the right time
in the right way ”*

This vision statement provides direction and illustrates what will happen when ICE data is well managed, made visible, is ready for sharing and consumption, and is highly trusted.

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The tagline provides a memorable phrase which can be added to communication materials that highlight the consistent experience to be gained when the right data is discoverable by people authorized to access that data, the data is in shareable condition, and it successfully supports the needs of both operations and decisionmakers.



3. Guiding Principles

Two key principles applied to this data strategy are:

- **Operationally Focused:** Focus on the data needs, challenges, and solutions that help operations advance the ICE mission; and
- **Informed by Past Accomplishments:**
The strategy will be implemented through focus on past ICE experience.

As we implement the strategy, additional guiding principles will ensure our “data matters” meaning—that our data is:

- **Managed**—Use effective methods to acquire, access, and share data as a mission asset;
- **Accessible**—Data is where it is needed, when it is needed, and structured as it is needed;
- **Transparent**—Data is known and accessible by all mission stakeholders;
- **Transferrable**—There are no impediments to sharing data to other mission stakeholders;
- **Empowering**—People can take control or gain power to take control of their data;
- **Reliable**—Data is free of errors, omissions, or interferences; and
- **Secure**—Protect confidential data from unauthorized access or use.





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ICE Data Strategy
Fiscal Years 2021-2025

4. Goals and Objectives

The goals and objectives of the ICE Data Strategy focus on the need to ensure data and information are consistently accurate, easy to find, easy to access, and enabled for sharing. An ever increasing importance is placed on the capacity for managing data which entail the people who produce and maintain data, the processes used to sustain the data, and the systems used to enable sharing in the successful achievement of all ICE missions.

Goal 1: Grow a data culture through collaboration

Collaboration is at the heart of a mature data culture. Data management is comprised of the policies, procedures, and processes that keeps data organized and maintained in a practical useable and repeatable manner. It is a multidisciplinary set of activities that requires collaboration among the data stewards, data providers, and data consumers focused on the mission essential asset...data.

Objective 1: Stakeholders set priorities

Many of the data challenges across ICE impact more than one component. Establishing an open and collaborative forum via the Data Governance Board that convenes stakeholders will enable them to identify the most pressing data issues and prioritize them in order of common interest.

Objective 2: Empower data stewards through data governance

Data stewardship entails the set of roles and responsibilities to ensure good practices for making certain that data is discoverable, accessible, and usable by any authorized consumer. Data stewards are the roles already performing tasks with data and are formally recognized across the agency.

Objective 3: Build-in privacy, civil liberties, and security compliance

Privacy, civil liberties, and security compliance and practices need to be considered early in a data project and not treated as an afterthought later in the project life cycle.

Objective 4: Establish enduring relationships between data and information providers and consumers

Complex challenges require collaborative relationships between roles that provide the data and the roles that consume data used to meet a mission or operational objective to ensure that the data meets the mission needs of both parties. These relationships are documented in information sharing and access agreements.

Objective 5: Support data related education and training

The Federal Data Strategy Action Plan² requires agencies to cultivate a data literate work force. Most professionals are becoming increasingly impacted by data dependent capabilities such as artificial intelligence and machine learning. Understanding the basic terms and key concepts pertaining to data will ensure effective communication across a wide range of stakeholders. Data learning mechanisms can include but not be limited to online events, virtual instruction, and shared material.

² Federal Data Strategy Action Plan dated May 2020, <https://strategy.data.gov/action-plan/>



Goal 2: Develop and maintain an I2SE data and information framework

The I2SE is focused on establishing a contextual framework comprised of the people, processes, and technologies used to guide ICE programs and projects. The goal is to ensure capabilities and implementation plans make certain that relevant data is enabled for sharing to meet a common purpose.

Objective 1: Facilitate data and information sharing and access agreements (ISAAAs)

Expectations between data producers and data consumers are defined in information and data sharing agreements. Consistent application of these agreements is facilitated through common policies, processes, tools, and techniques.

Objective 2: Understand and document ICE datasets and data assets

Best practices suggest that an initial step to organizing data as assets is to conduct an inventory, document them, and maintain an active inventory. Data assets that are inventoried are the assets that are managed and maintained. The ICE Data Inventory enables discovery of mission data, who maintains that data, and how that data may be accessed by relevant users.

Objective 3: Standardize data handling

Data handling involves the process of gathering, recording and presenting data in spreadsheets, tables, charts, or other visual forms. The more we use consistent data handling rules and standards, the easier it becomes to share and aggregate data.

Objective 4: Expand the data architecture

Establish a data standards program. Data standards are a key component of data architectures. The current data architecture at ICE can be expanded to include a data taxonomy and to reflect agreed upon data standards to improve consistency in processes and data understanding.

Goal 3: Enhance shared data and information services

Data and information sharing entails facilitating, coordinating, and expediting access to protected mission information. ICE must incorporate all types of data at all security levels. Improvements in data sharing services will require common capabilities that provide maximum access to authorized consumers.

Objective 1: Promote secure, scalable, responsive sharing services for bulk data

Conventional methods for sharing increasingly large volumes of data are not sufficient and will require more innovative sharing solutions such as, but not limited to, cloud services.

Objective 2: Leverage best practices to support innovation

Enable use of data the best way possible to advance the ICE mission. Discover best practices, explore emerging technologies (e.g., artificial intelligence/machine learning) and capabilities to learn what is possible among ICE operations from a data perspective.

Objective 3: Continuously monitor and improve the quality of mission critical data

Data needs to be accurate, up to date, valid, consistent, and understood to be of use to operations and decisionmakers.

5. Outcomes

The following outcomes reflect desired shifts in awareness, capabilities, and culture as a result of the ICE Data Strategy execution and institutionalization:

- **Actionable data**—Data can be acted on when it is relevant to the mission, in good condition, and trusted.
- **Standardized and repeatable information and data sharing**—Applying a standard framework and repeatable processes will improve the consistency in how data is accessed, handled,

and shared.

- **Better decisions with data**—Data that is consistently accurate, up to date, valid, and understood is data that influences better decisions.
- **Improved data discovery and access**—Repeatable processes that are consistently applied across the agency results in the removal of barriers hindering data discovery and access.

Appendix A provides a graphical representation of the data strategy vision, goals, and outcomes.



6. Next Steps

Executing this data strategy will begin by designing and implementing the I2SE. Data governance will be used for collaborating and working activities such as, but not limited to:

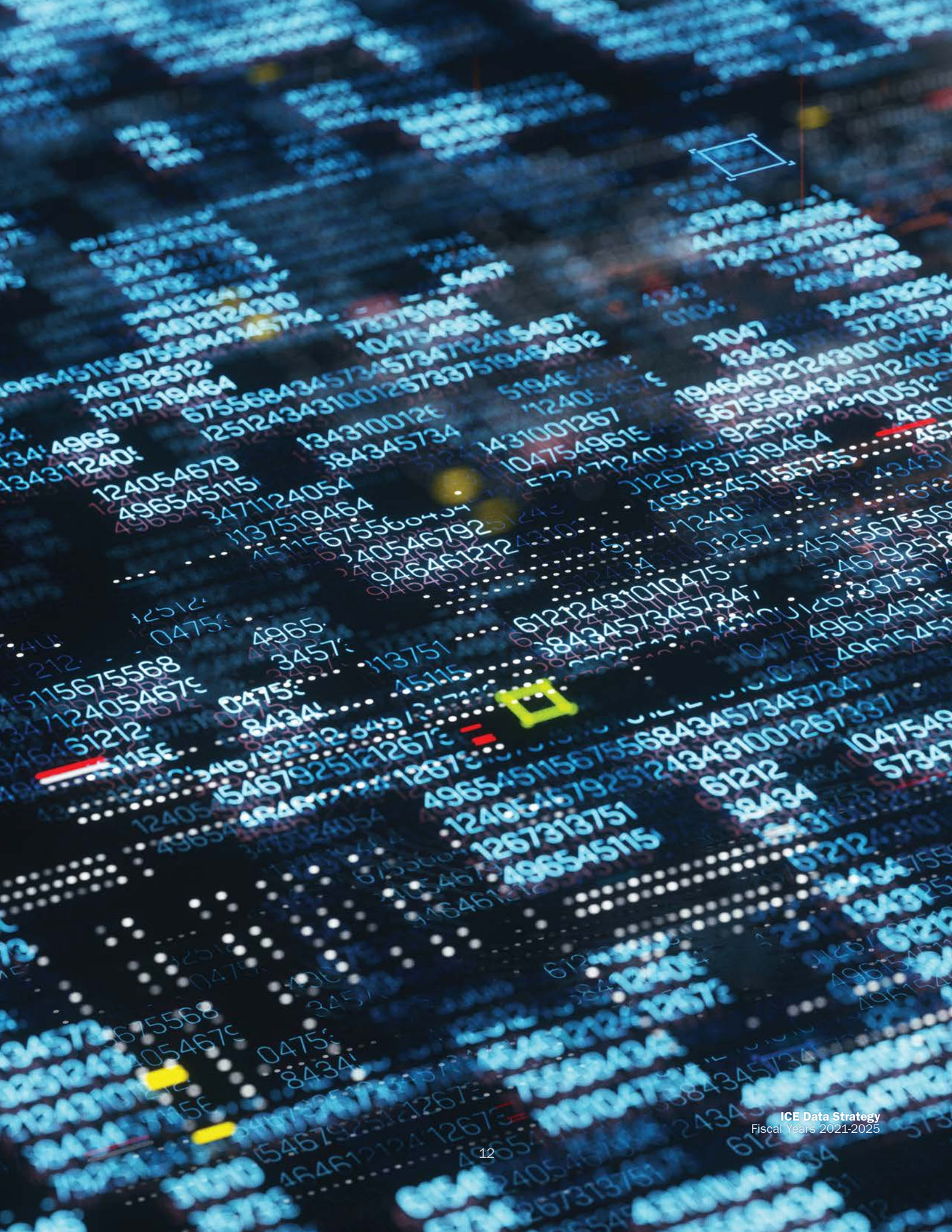
- Developing common processes for working data standards;
- Expanding a common reference data architecture;
- Maintaining the ICE Data Inventory;
- Tracking data quality issues and resolution; and

- Facilitating data access services and data sharing solutions.

Future steps will be described in a data strategy roadmap leading toward goal achievement and targeted outcomes.

Collective support and cooperation of ICE stakeholders will help to ensure the vision for “the right data to the right people at the right time in the right way” becomes a reality.





Appendices

Appendix A

Data Strategy At-A-Glance

Figure 2 below provides a graphical representation of the data strategy.

“ The right data to the right people at the right time in the right way ”

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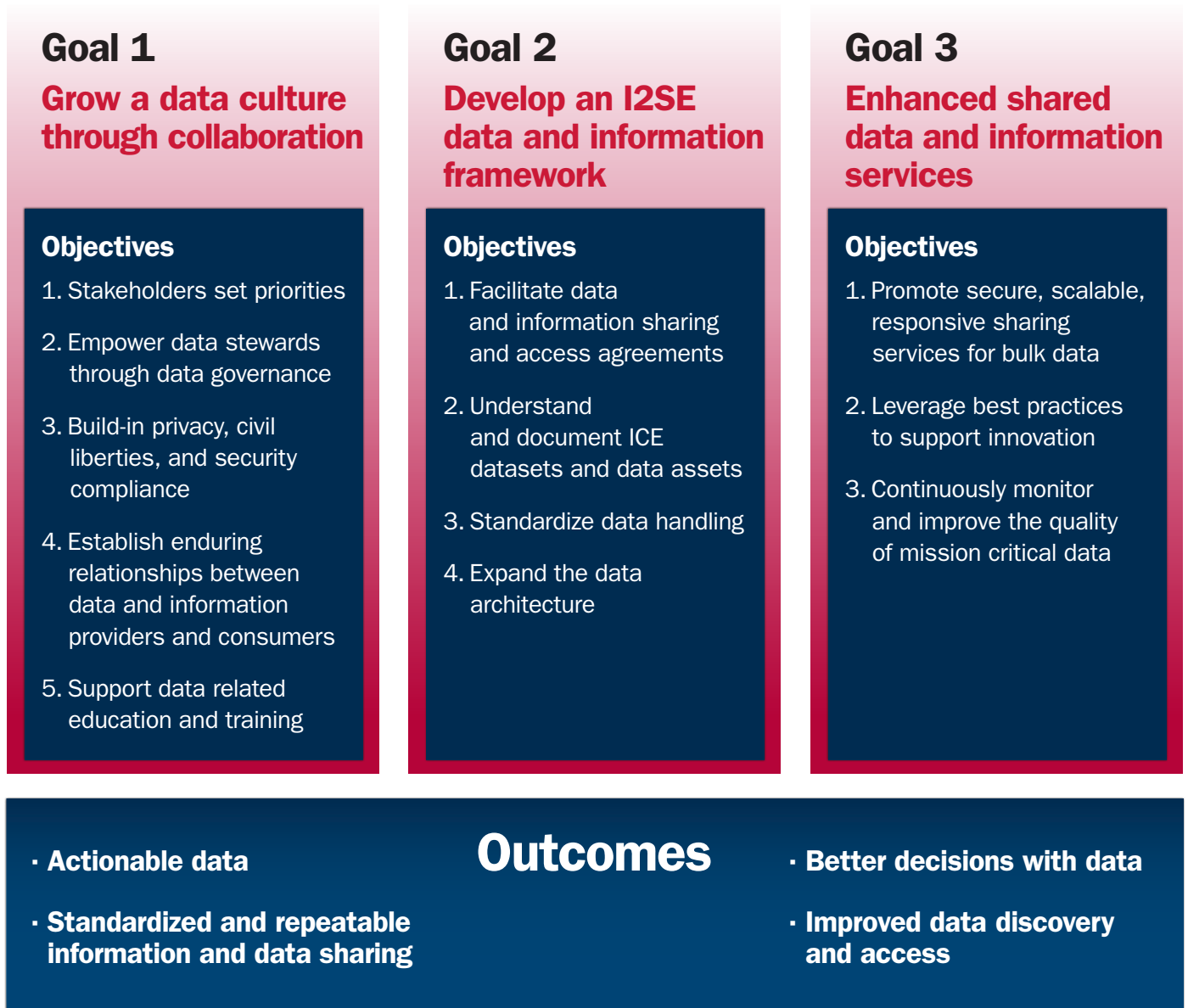


Figure 2—Data Strategy At-A-Glance



Appendix B

Glossary

Term	Definition	Term	Definition
Authoritative Data Source (ADS)	An authoritative data source is the data asset containing authoritative data where that data is created, stored, managed, and/or provided for a specific business need. Authoritative data must have an identified source.	Data Model	Graphic and/or lexical representation of the data and information required to support the operation of any set of business processes and/or the systems used to automate them.
Data	Facts represented as text, numbers, graphics, images, sound, or video. Data is the raw material used to create information.	Data Quality	Data quality ensures that the data being monitored is 'fit for use' for its intended purpose with a focus on mission-critical data, particularly in authoritative data sources.
Data Accessibility	Data accessibility refers to the ability to find and retrieve necessary, relevant data easily and in a timely manner. Accessibility is tightly coupled with privacy and security concepts such as authorization, confidentiality, and availability.	Data Reference Model	Representational framework whose primary purpose is to enable information sharing and reuse across all levels via the standard description.
Data Architecture	Data architecture is a set of specifications that establishes the framework and boundaries in the definition, design, dissemination, delivery, and development of data assets in the enterprise. These specifications are represented in views, models, and artifacts supporting different stakeholder perspectives and can be at various levels of abstraction.	Dataset	Organized collection of data with a specific purpose found in a data system.
Data Asset	Managed container for data. Examples include relational database, web site, document repository, directory, or data service.	Data Stewardship	Data stewardship consists of the data-related roles and responsibilities providing the foundation for successful data governance and quality within an enterprise data management context. Data stewardship ensures the enterprise data assets are trusted, available, managed, and interoperable.
Data Discovery	Data discovery describes the process of collecting and consolidating information from various back-end systems and sources, then manipulating and analyzing it to uncover patterns, trends, relationships, and anomalies.	Information	The interpretation of data based on its context, including business meaning, format, timeframe, and relevance to a given usage.
Data Exchange	Categorization of information being exchanged between one or more parties, such as the regular exchange of environment testing data among federal, state, local, and tribal entities.	Metadata	Descriptive data about data. Structural or descriptive information about data such as content, format, source, rights, accuracy, provenance, frequency, periodicity, granularity, publisher, or responsible party, contact information, method of collection, and other descriptions.
Data Governance	Data governance is the discipline of administering data and information assets across an organization through formal oversight of the people, processes, technologies, and lines of business that influence data and information outcomes to drive business performance.	I2SE	Investigative Information Sharing Environment: The people, processes, and systems that enable accurate and available information and data sharing across ICE's civil and criminal enforcement community.
Data Handling	The process of gathering, recording, and presenting data in a way that is helpful to others (e.g., in spreadsheets, tables, charts, or other visual forms) without violating any rules (e.g. security classification or privacy rules) associated with the data.	Information Sharing	Exchange between entities or individuals of data, information or knowledge stored within discrete information systems or created spontaneously using collaborative communication technologies. Includes transmission, communication, or any type of disclosure or receipt of information as well as any provision or receipt of account access to a dataset or data repository.

