

All In on AI: Learn and Innovate Faster

Udo Sglavo, Vice President R&D, Applied AI and Modeling

GenAI In Life Sciences And Pharma Today

Coleman Parkes Research Ltd Global Survey – commissioned by SAS

Read the
full report

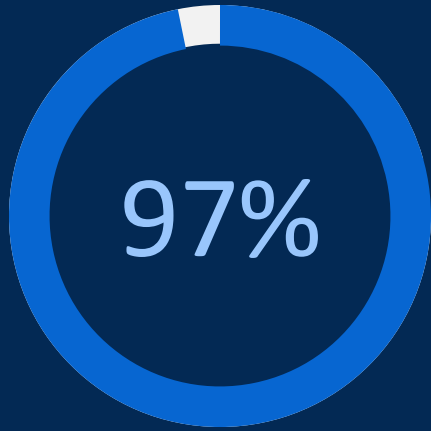


Your journey to a GenAI future:

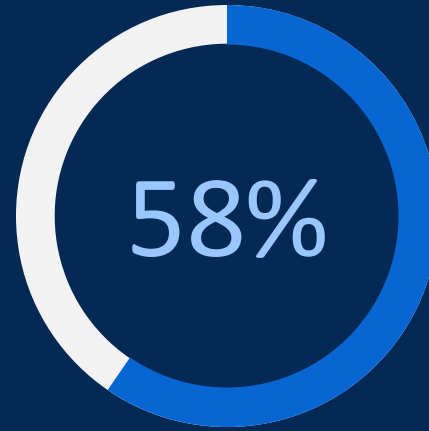
A strategic path to success in life sciences and pharma



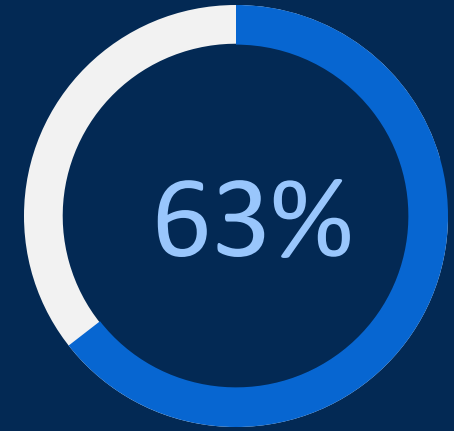
Respondent Perspectives



of life sciences businesses are already using or have plans to use GenAI.



of life sciences organizations currently use the technology, compared with 54% on average in all sectors.



of organizations have a policy stating how employees can use GenAI.

For the same amount you could
hire between
~250 and ~500 Dallas Cowboys
teams



(2024 estimated value is about \$9 billion)

Blockers and Barriers

Top implementation challenge



49%

Are finding it difficult to **transition GenAI from the conceptual phase to practical use**, and the same number say using both public and proprietary data sets effectively is a concern.

Technical hurdles



30%

Indicate that **technological limitations** are the greatest impediment to implementing effective governance and monitoring.

Biggest worries



79%

Of life sciences leaders say they are **uneasy about data privacy** when it comes to using GenAI in their organization.

74%

Say the same for **data security**.

59%

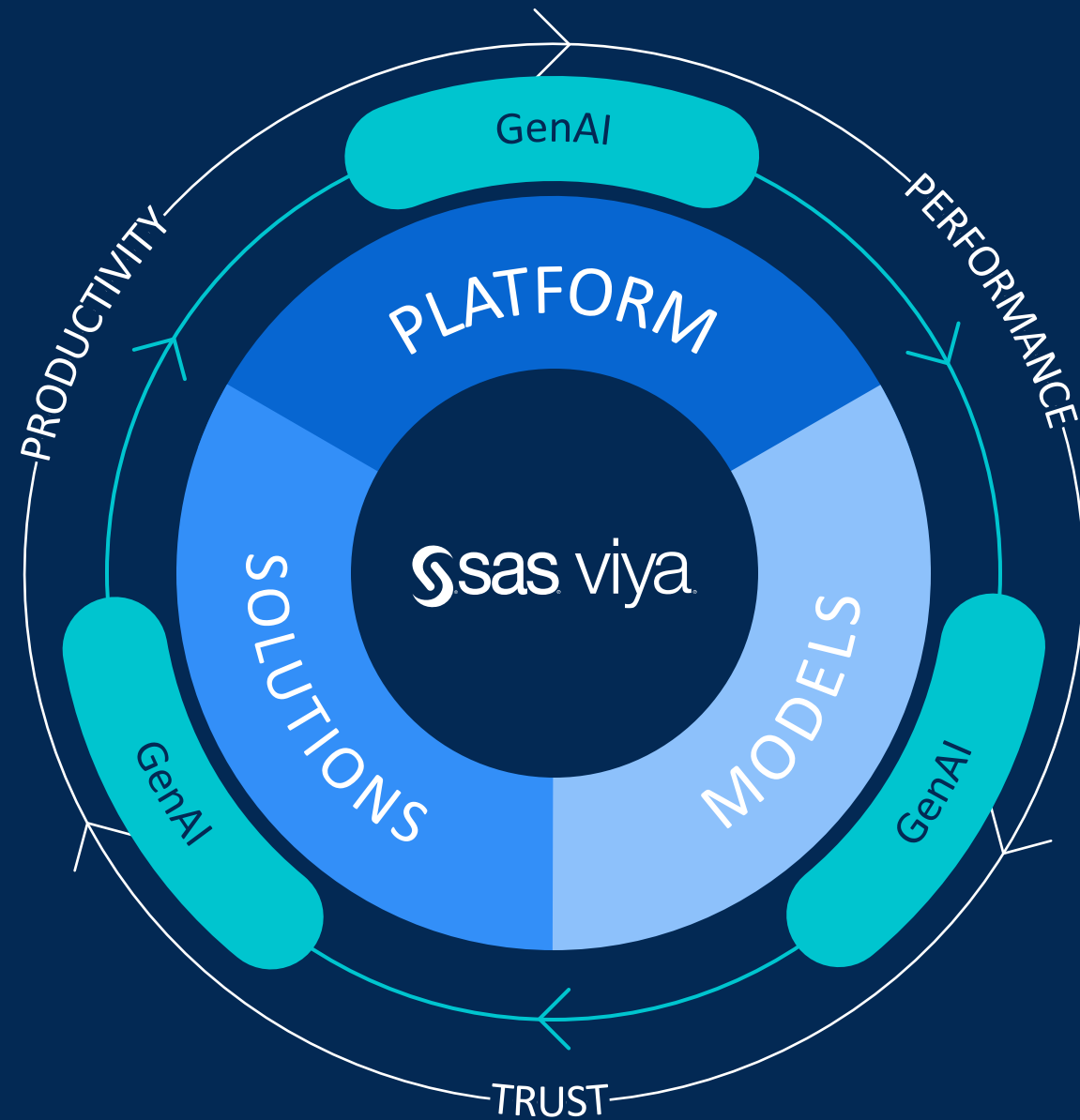
are anxious about **governance**.

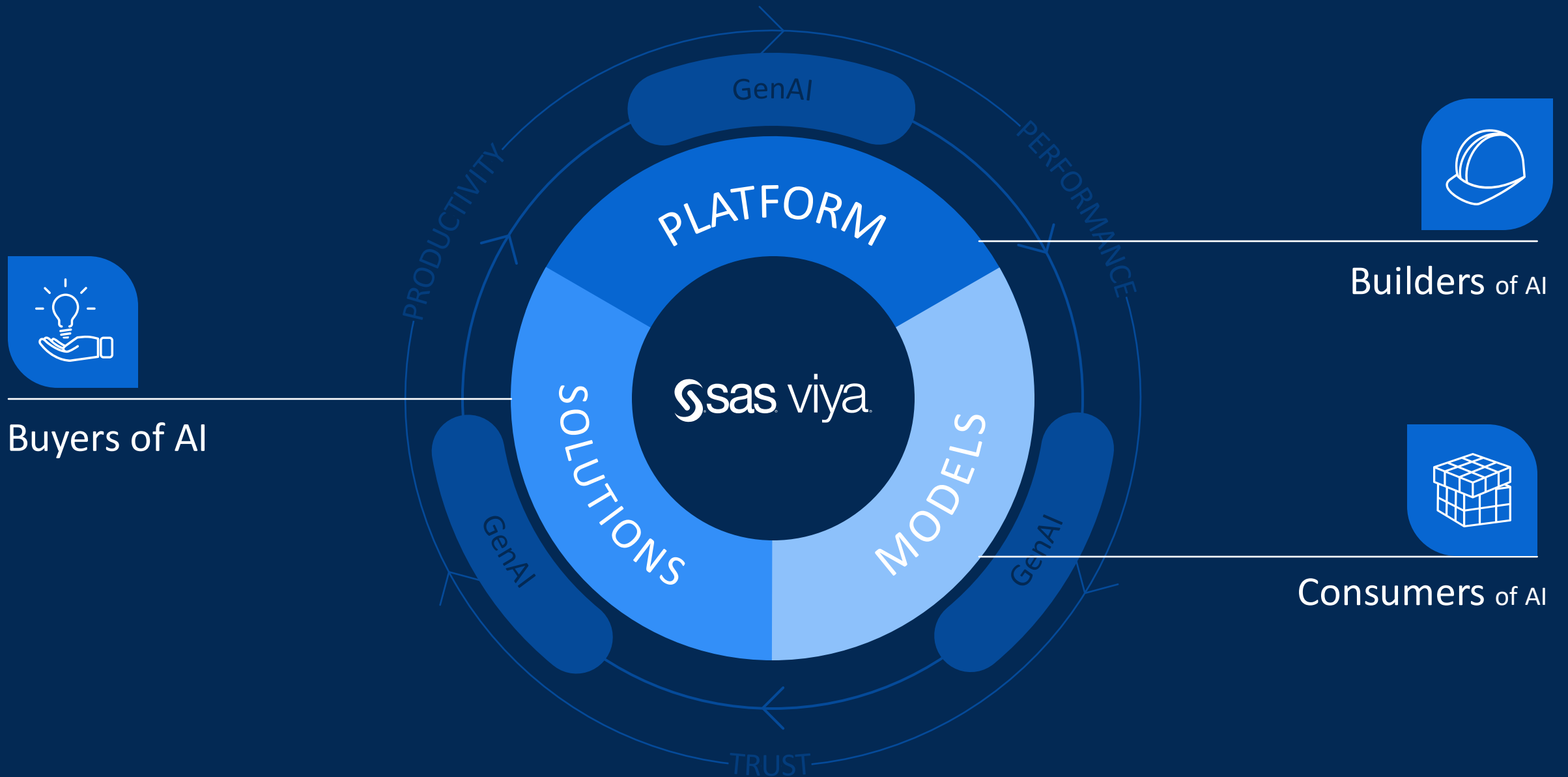
Funding issues



17%

Of life sciences leaders say **insufficient funding** is a significant challenge in implementing effective GenAI governance and monitoring higher than any other sector.





**Productionize
real-world use cases**



**Package and deliver
as standalone products**

Innovation
for Industries



Regulations
and
Governance



Talent
Gap Solved



**The world needs great solutions.
Build yours faster.**

Example



Entity Resolution

Process of identifying and grouping data records pertaining to the same real-world entity.

Entity Resolution

Foundational to Contextualizing Data

Motor Vehicles

Name	Jonathan William Smith
Date of Birth	03/05/1976
SSN	214-55-1234
Address	123 S Main St
Drivers License	100212542
Phone Number	(555) 867-5309

Education

Name	Bill Smith
Date of Birth	05/03/1976
SSN	N/A
Address	123 Main St
Drivers License	N/A
Phone Number	(555) 867-5309

Vital Records

Name	Jonathan William Smith
Date of Birth	03/05/1976
SSN	214-55-1234
Address	N/A
Drivers License	N/A
Phone Number	N/A

Employment Services

Name	J.B. Smith
Date of Birth	03/05/1967
SSN	214-55-1243
Address	1123 Fibonacci Way
Drivers License	N/A
Phone Number	(555) 819-1100

Health Services

Name	John Smith
Date of Birth	03/05/1976
SSN	XXX-XX-1234
Address	1123 Fibonacci Way #5
MPI	54876351468
Phone Number	(555) 867-5390

Revenue

Name	Jonathan W Smith
Date of Birth	03/05/1976
SSN	241-55-1234
Address	PO Box 81
Drivers License	N/A
Phone Number	(555) 867-5309

Entity Resolution

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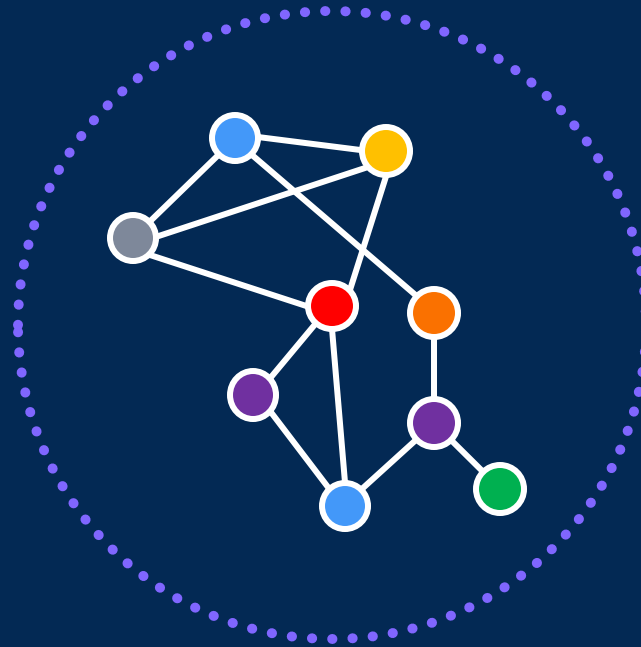
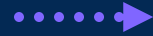
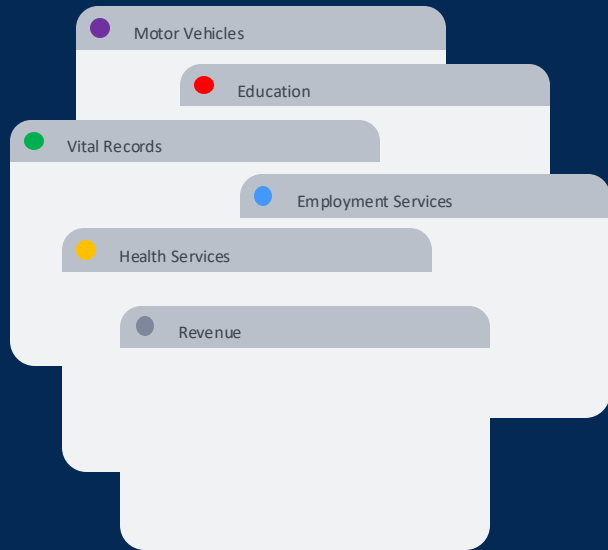
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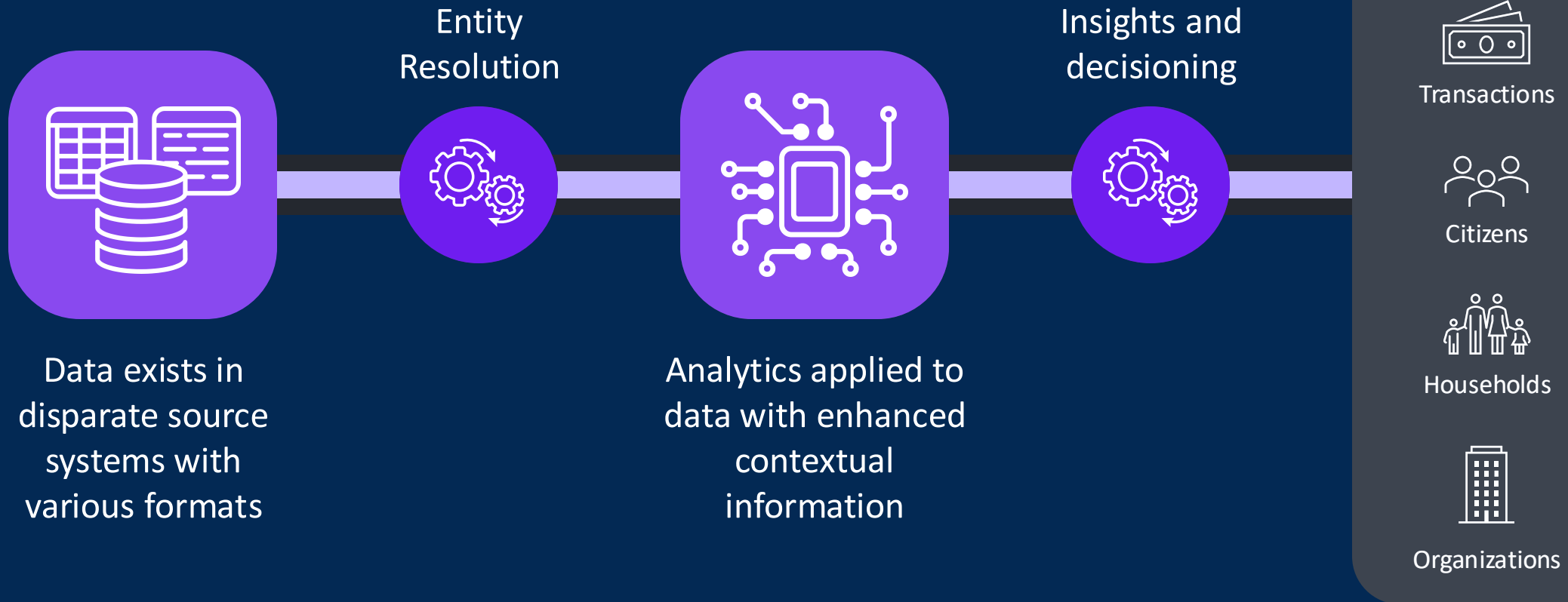


Jonathan William
Smith

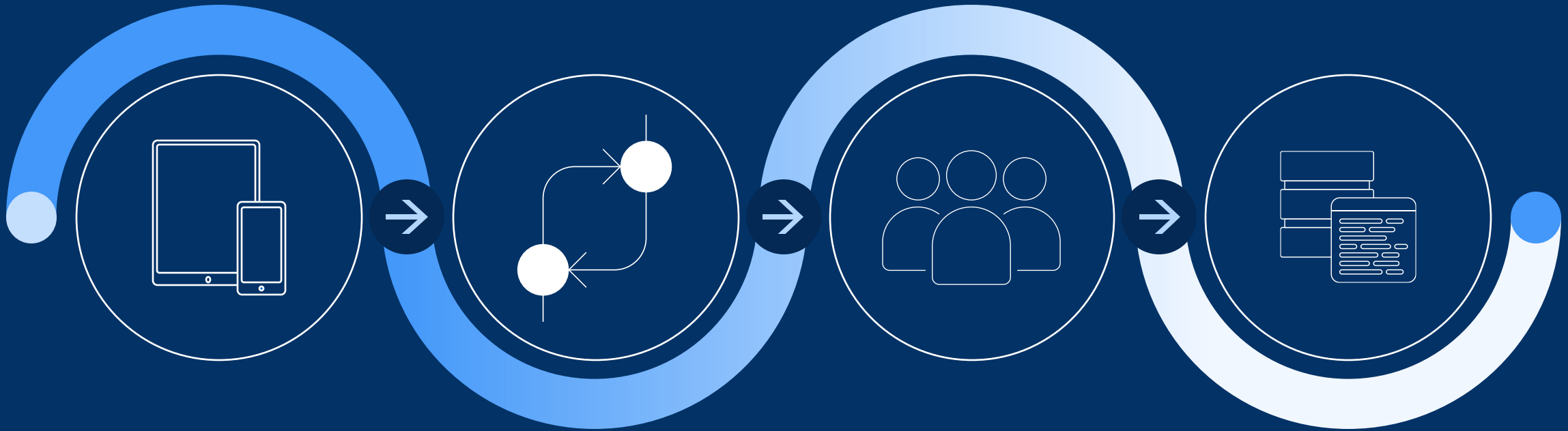
Date of Birth	03/05/1976
SSN	214-55-1234
Address	1123 Fibonacci Way #5
Drivers License	100212542
Phone Number	(555) 867-5309
MPI	54876351468
Aliases	J.B. Smith Bill Smith John Smith
Alternate Addresses	123 S Main St PO Box 81

Entity Resolution

Where Does It Fit?



Implementation Approach



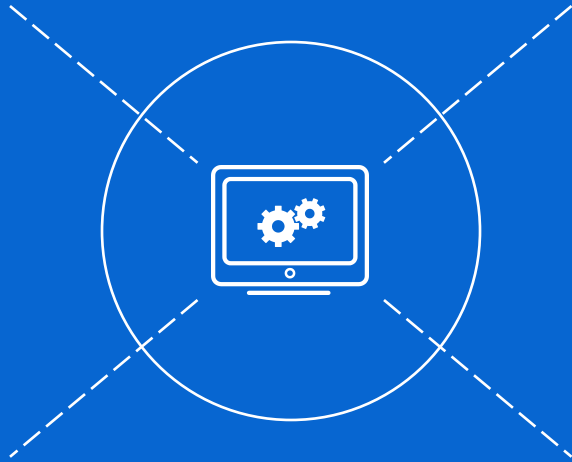
Attribute Encoding
& Transformations

Clustering & Linkage

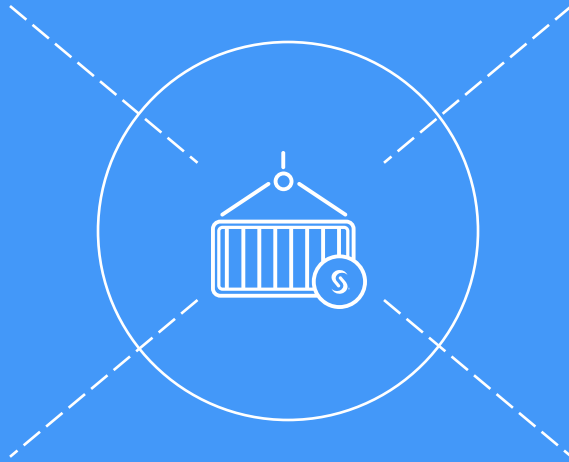
Human-centric
verification &
Analysis

Better Data Quality
→ Improved AI,
decisioning & digital
transformation

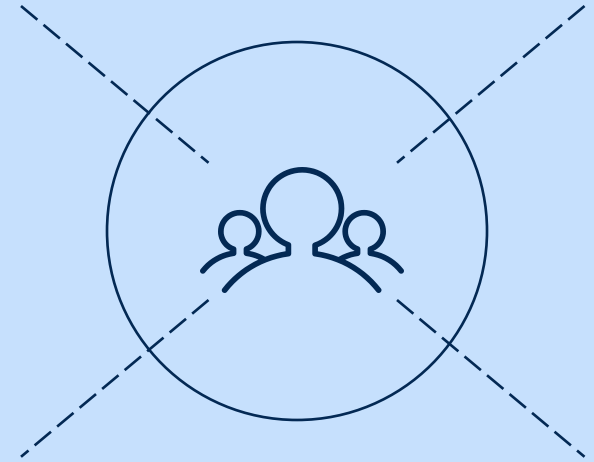
Deliverables



Model Package



Container



End Users

Client Interface

The screenshot displays the SAS Viya Client Interface. The main window shows a Python script being executed in a terminal. The script is named `run_er_python.py` and is located in the `test` directory. The script imports `saspy` and `pandas`, and uses `saspy.SASsession` to connect to a SAS server. It then reads a file `create_records.sas` and prints the results. The script also defines a function `view_sas_table` that uses `sas.saslib` to read a table from a SAS library and returns a `pandas` DataFrame. The script is executed, and the results are displayed in the terminal.

The terminal output shows the following log messages:

```
151 networks:
152 default:
154 [2024-10-30T14:47:04.117Z] Start: Run: docker ps
155 [2024-10-30T14:47:04.639Z] Stop (522 ms): Run: do
156 [2024-10-30T14:47:04.639Z] Start: Run: docker ins
157 [2024-10-30T14:47:05.128Z] Stop (489 ms): Run: do
158 [2024-10-30T14:47:05.129Z] Start: Run: docker eve
159 [2024-10-30T14:47:05.272Z] PersistedPath=c:\Users
160 [2024-10-30T14:47:05.273Z] Container was created
161 [2024-10-30T14:47:05.273Z] Expected to find a doc
162 [2024-10-30T14:47:05.273Z] Restoring c:\Users\sea
163 [2024-10-30T14:47:05.274Z] Start: Run: docker com
164 [2024-10-30T14:47:05.755Z]
165 [2024-10-30T14:47:06.633Z]
166 [+] Running 0/0
167 - Container python-devenv Starting
168 [2024-10-30T14:47:06.739Z]
169 [+] Running 0/1
170 - Container python-devenv Starting
171 [2024-10-30T14:47:06.769Z] Error response from da
172 n/git/tmp-aaim-pem': mkdir /Users: file exists
173 [2024-10-30T14:47:06.860Z] Users: file exists
174 [2024-10-30T14:47:06.865Z] Error: Command failed:
175 [2024-10-30T14:47:06.866Z] at ftA (c:\Users\s
176 [2024-10-30T14:47:06.866Z] at process.process
177 [2024-10-30T14:47:06.866Z] at async htA (c:\U
178 [2024-10-30T14:47:06.866Z] at async TtA (c:\U
179 [2024-10-30T14:47:06.866Z] at async iB (c:\Us
180 [2024-10-30T14:47:06.866Z] at async wrA (c:\U
181 [2024-10-30T14:47:06.866Z] at async DrA (c:\U
182 [2024-10-30T14:47:06.866Z] at async sA (c:\U
```

The bottom panel shows the results of the `view_sas_table` function, displaying a table with 10 rows and 13 columns. The table contains personal information for John W. Smith and Jane Williams.

RECORD_ID	FULL_NAME	PRIMARY_ADDRESS_LINE_1	PRIMARY_ADDRESS_LINE_2	PRIMARY_CITY	...	DATE_OF_BIRTH	SOCIAL_SECURITY_NUMBER	MOBILE_PHONE	WORK_PHONE	EMAIL_ADDRESS
0	1.0 SMITH, John W	111 Main Street	NaN	Canton	...	03/23/1973	664964955	NaN	NaN	NaN
1	2.0 John SMITH	771 Park Road	NaN	Evergreen	...	03/23/1973	664-96-4955	7046409820	NaN	JOHN.SMITH.507@OUTLOOK.COM
2	3.0 Williams, JANE	3726 Center Boulevard	NaN	Fairfax	...	03/28/1977	442169500	(540) 459-9576	NaN	NaN
3	4.0 John SMITH	771 Park Road	NaN	EVERGREEN	...	03/23/1973	664964955	(702) 640-9820	NaN	NaN
4	5.0 JOHN SMITH	2824 Crepe Myrtle Drive	NaN	DUMFRIES	...	03/23/1973	664964955	(543) 003-2371	NaN	john.smith.507@outlook.com
5	6.0 JANE WILLIAMS	3432 ALLEN DRIVE	NaN	RALEIGH	...	03/04/1972	199820624	(704) 239-9952	NaN	NaN
6	7.0 John Smith	NaN	NaN	NaN	...	03/23/1973	664-96-4955	NaN	NaN	john.smith.507@outlook.com
7	8.0 Smith, John	111 Main Street	NaN	CANTON	...	03/23/1973	664-96-4955	(704) 780-7444	NaN	NaN
8	9.0 John SMITH	NaN	NaN	NaN	...	03/23/1973	664-96-4955	(704) 954-5571	NaN	NaN
9	10.0 WILLIAMS, Jane	3726 Center Blvd.	NaN	FAIRFAX	...	03/28/1977	424169500	NaN	NaN	NaN

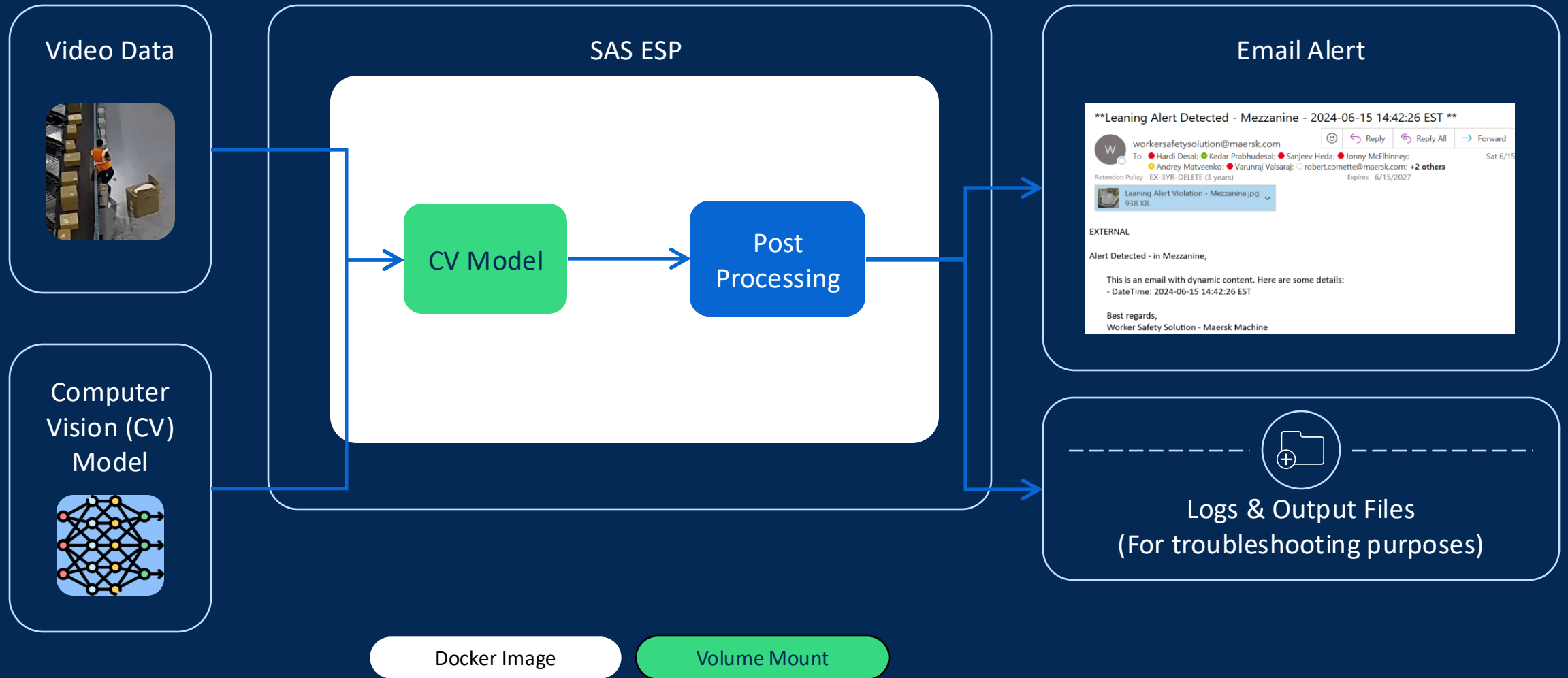
Client Interface

The screenshot displays the SAS Studio interface for developing code and flows. The top menu bar includes 'New', 'Options', 'View', 'Open', and 'Save All'. The left sidebar shows 'Libraries' with a tree view of connected libraries: MAPS, MAPSGFK, MAPSSAS, SASDQREF, SASHELP, SASUSER, and WORK. The main workspace is titled 'SAS AI-Driven ER - Simple E2E.flw' and contains a workflow diagram. The workflow consists of the following steps: ER Process Initialization, Load Data Records, Data Preparation, Record Linkage #1, Record Linkage #2, Stack Record Links, Highest Scored Links, False-Positive Detection, Remove Suspect Links, Assign Cluster IDs, and Calculate Cluster Scores. Below the workflow diagram, the 'Record Linkage #1' node is selected, showing its SAS code in the 'Code' tab. The code is as follows:

```
1  
2  /** Drop Rule Score Table for Re-Run */  
3  proc casutil; droptable incaslib = "PUBLIC" casdata = "RECORD_LINKAGE_RULE_SCORES_1" quiet; quit;  
4  
5  %let recordLinkageConfig = '  
6  {  
7    "historical_ds": {  
8      "caslib": "PUBLIC",  
9      "name": "SOURCE_RECORDS_CLN"  
10   },  
11   "output_ds": {  
12     "caslib": "PUBLIC",  
13     "name": "LINKED_RECORDS_1"  
14   },  
15   "work_caslib": "PUBLIC",  
16   "record_id": "RECORD_ID",  
17   "rules": [  
18     {  
19       "rule_id": "FULL_NM_MC85_SSN",  
20       "attribute_groups": [  
21         { "attributes": ["SAS_NM_FULL_MC_85_1"], "match_function": "exact", "match_parameters": "" },  
22         { "attributes": ["SAS_SSN_1", "SAS_ITIN_1"], "match_function": "exact", "match_parameters": "" }  
23       ],  
24     },  
25     {  
26       "rule_id": "FIRST_NM_DOB_SSN_H2",  
27       "attribute_groups": [  
28         { "attributes": ["SAS_NM_FIRST_1"], "match_function": "exact", "match_parameters": "" },  
29         { "attributes": ["SAS_DOB_1"], "match_function": "exact", "match_parameters": "" }  
30       ],  
31     }  
32   ]  
33 }
```

The bottom status bar shows 'Ready' and 'Recover (6) Submission (0)'.

Streaming Data Integration



Industries

Life
Sciences



Public
Sector



Banking



Insurance



Product & Solutions

SAS
Platform



Life Sciences
Analytics



Fraud
Management



Customer
Intelligence



Initial Models

Cross Industry

- AI-Driven Entity Resolution
- Document Analysis
- Supply Chain Optimization

Healthcare Payment Integrity

- HPI Rules
- HPI Outlier Detection and Analytic Reporting
- Healthcare Provider Peer Grouping

Welfare Fraud Detection

- SNAP
- TANF

Payment Fraud Detection

- Credit/Debit Card
- Check
- Wire/Peer to Peer

Learn and Innovate Faster

