



OPS Builder: Navigating the Cosmos of Study Deliverables with Stellar Automation

Emerging Trends and Open-Source Technologies

PHUSE APAC Connect – 2026

20th Feb 2026



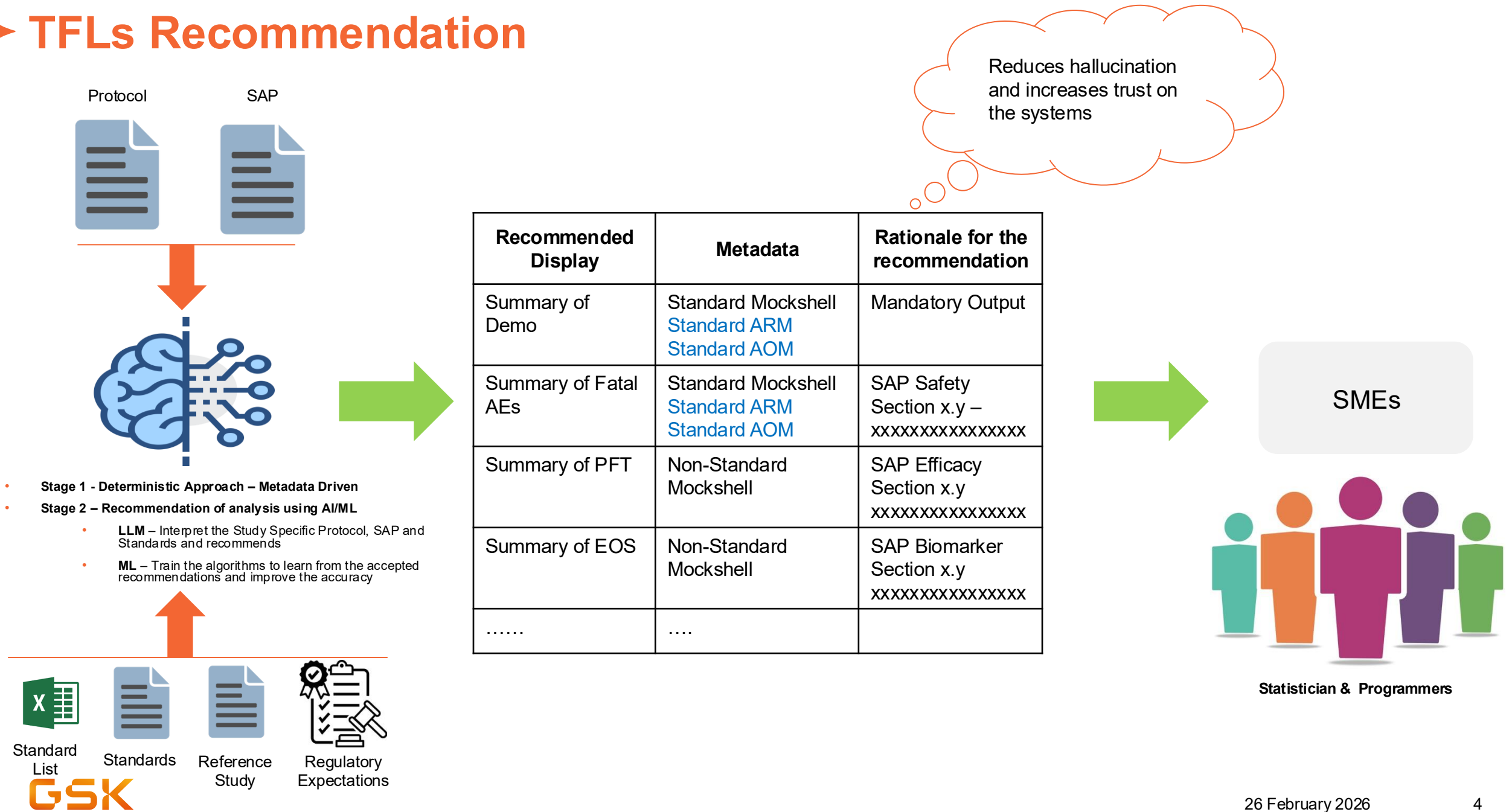
Disclaimer

- The opinions expressed in this presentation and on the following slides are solely those of the presenter and not necessarily those of GSK.

User Journey we want to drive ...

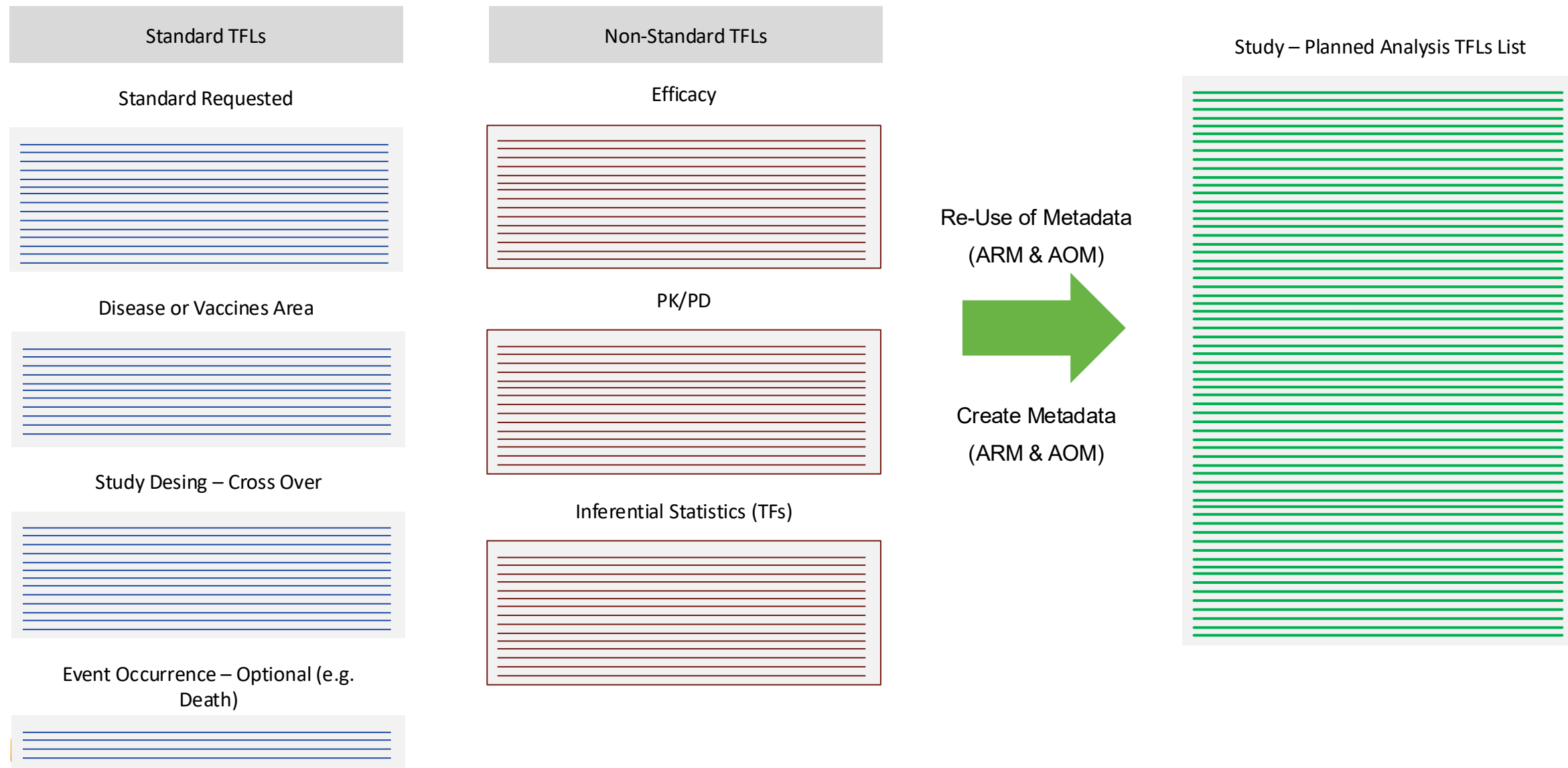
GSK

TFLs Recommendation



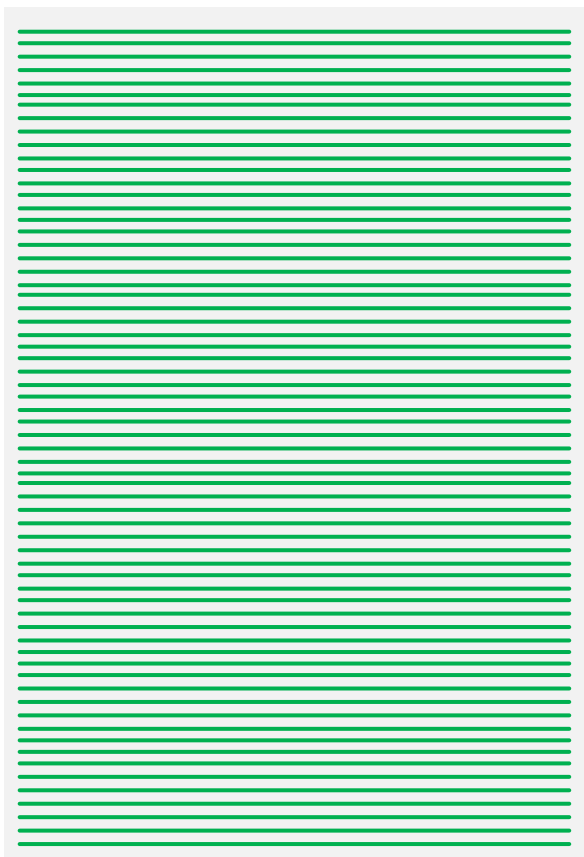
TFLs Selection

Recommended or SME selection - Shopping Cart Experience



TFLs Selection → Auto Curation of ADaM Specs

Study – Planned Analysis TFLs List



Re-Use of Metadata
(CT, VLM, LED)



Create Metadata
(CT, VLM, LED)

NAME	LABEL
adacq	Asthma Control Questionnaire Analysis
adae	Adverse Events Analysis
adaesi	AEs of Special Interest Analysis
adapmh	Family History Analysis
adc1	Concomitant Medications GSKDRUG Analysis
adcm	Concomitant Medications WHODRUG Analysis
adcovid	COVID-19 Analysis Dataset
adct	CT Scan Analysis
adcv	Cardiovascular Events Analysis
addd	Death Analysis
addiard	Daily Diary Analysis
addiarw	Weekly Diary Analysis
addiarwr	Weekly Diary Improvement Analysis
addq	Demographic Qualifiers Analysis
adds	Disposition Analysis
addv	Deviation and Pop Exclusion Analysis
addx	Self Injection Exposure Analysis
adeg	ECG Analysis
adex	Exposure Analysis
adexac	Exacerbation Analysis
adexaca	Asthma Exacerbation Summary Analysis

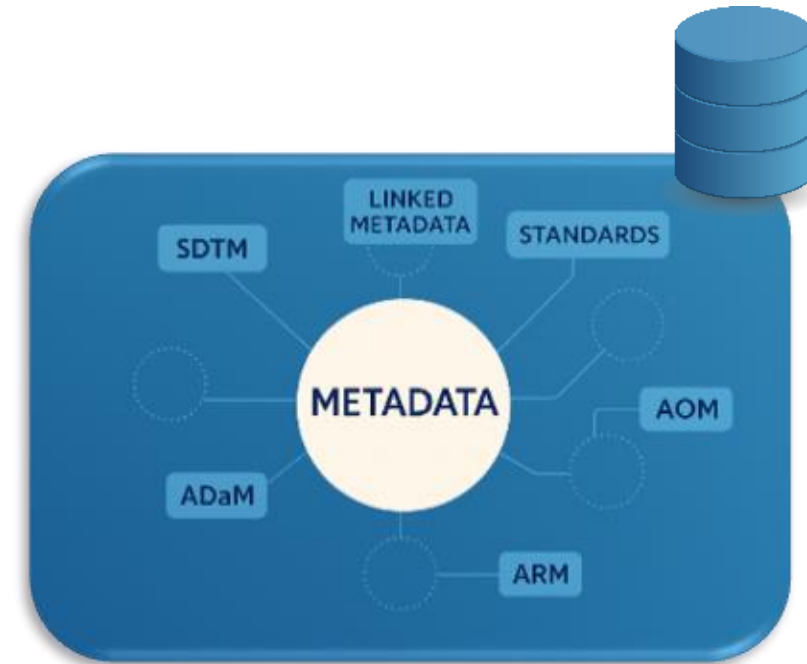
Every detail is in machine readable format in database

Study – Planned Analysis TFLs List



Study – Planned Analysis ADaM List

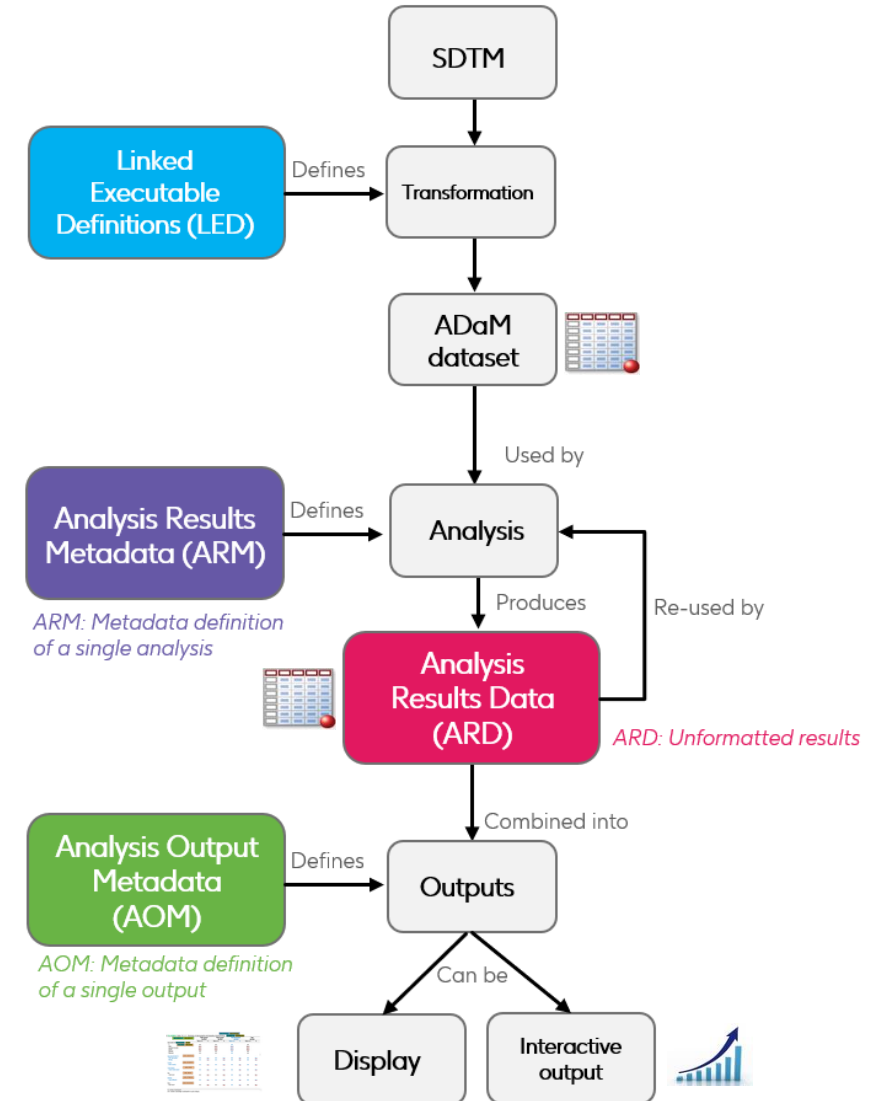
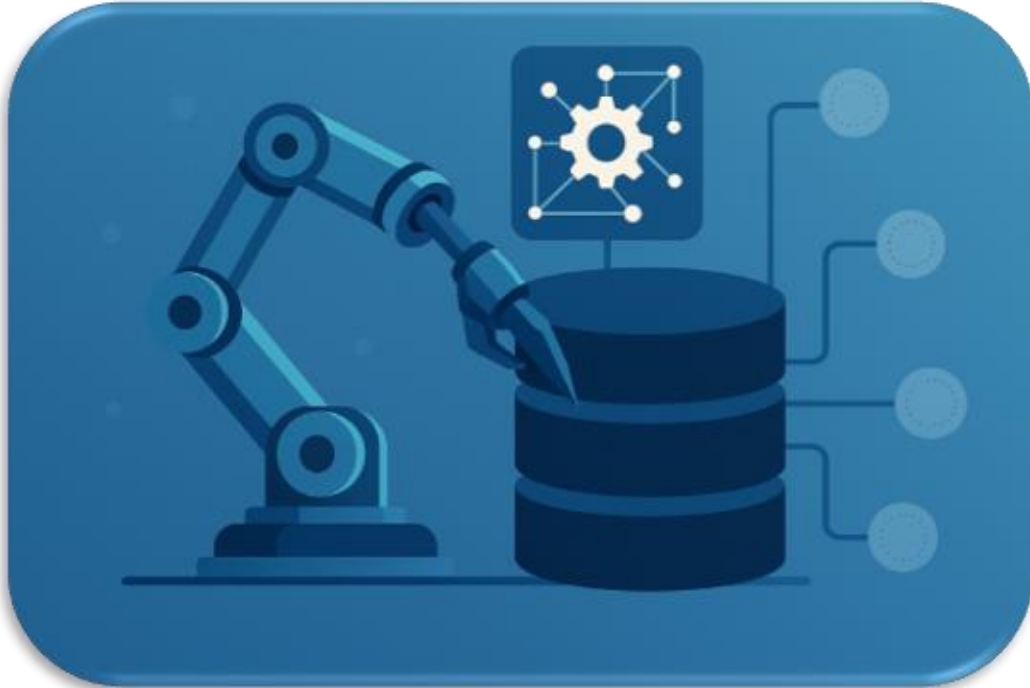
NAME	LABEL
adacq	Asthma Control Questionnaire Analysis
adae	Adverse Events Analysis
adaesi	AEs of Special Interest Analysis
adapmh	Family History Analysis
adc1	Concomitant Medications GSKDRUG Analysis
adcm	Concomitant Medications WHODRUG Analysis
adcovid	COVID-19 Analysis Dataset
adct	CT Scan Analysis
adcv	Cardiovascular Events Analysis
add	Death Analysis
addiard	Daily Diary Analysis
addiarw	Weekly Diary Analysis
addiarwr	Weekly Diary Improvement Analysis
addq	Demographic Qualifiers Analysis
adds	Disposition Analysis
advv	Deviation and Pop Exclusion Analysis
addx	Self Injection Exposure Analysis
adeg	ECG Analysis
adex	Exposure Analysis
adexac	Exacerbation Analysis
adexaca	Asthma Exacerbation Summary Analysis



DRY (Don't Repeat Yourself)

Automation ...

Let the machine do that the job now – faster, efficient & high quality



Nice! but we are no way near to this journey ...

GSK

OPS Content – As Is

CONFIDENTIAL		CONFIDENTIAL	CONFIDENTIAL	CONFIDENTIAL						
The GlaxoSmithKline group of companies				217364						
Information Type: Output and Programming										
TITLE		TABLE OF CONTENTS	Version History	1. PURPOSE OF THE OUTPUT AND PROGRAMMING SPECIFICATION (OPS)						
Protocol Title: An Expanded Access Program for Patients with Relapsed and Refractory Multiple Myeloma whose current therapy there is not effective		1. PURPOSE OF THE OUTPUT AND PROGRAMMING SPECIFICATION (OPS).....	<table><tr><th>OPS Version</th><th>Approval Date</th><th>Pro whi</th></tr><tr><td>OPS</td><td></td><td>Prot (1-E SAF</td></tr></table>	OPS Version	Approval Date	Pro whi	OPS		Prot (1-E SAF	The OPS is to be used in conjunction with the Statistical Analysis Plan (SAP) to describe the analysis to be included in a Clinical Study Report (CSR) or other analysis conducted by GSK. While the SAP defines endpoints, the OPS defines:
OPS Version	Approval Date	Pro whi								
OPS		Prot (1-E SAF								
Study Number: 217364		2. LIST OF DATA DISPLAYS/TFL TABLE.....		The complete set of displays (tables, figures and listings or TFLs) for the deliverable.						
Compound Number: GSK2857916		3. EXAMPLE MOCK SHELLS FOR DATA.....		The mock shells for all non-standard displays and hyperlinks to the shells for GSK standard displays, if applicable.						
Abbreviated Title: An Expanded Access Program for Patients with Relapsed and Refractory Multiple Myeloma		3.1. Tables.....		The conditional displays that may be needed, specifying under what conditions they will be needed.						
Sponsor Name: GlaxoSmithKline Research		3.2. Figures.....		Derivations, data definitions and algorithms needed to author the specifications, and to program the analysis datasets when not covered in the SAP.						
Regulatory Agency Identifier Number(s)		3.3. Listings.....								
Registry ID		4. APPENDICES.....								
Not Applicable		4.1. Appendix 1 List of Conditional O.....								
Copyright 2022 the GlaxoSmithKline group of companies. All rights reserved. Unauthorised copying or use of this information is prohibited.		4.2. Appendix 2 Analysis Datasets ...								
		4.3. Appendix 3 Study Intervention G.....								
		4.4. Appendix 4 Reporting Standards.....								
		4.5. Appendix 5 Derived and Transformed Data.....								
		4.5.1. General.....								
		4.5.2. Safety.....								
		Trademarks.....								
XBU Output and Programming Specification (OPS) Template										
		Page :	Page	Page 4 of 76						

OPS Content – As Is

Total number of displays (Tables, figures and listings): 155

Output No.	Analysis Set	Title	Mock shell	Deliverable (Priority)	Conditional (Y/N)	Condition	Programming Notes
Study Population Tables							
Participant Disposition							
1.1	All Treated	Summary of Subject Status and Subject Disposition for the Study Conclusion Record	ES8	SAC (1)	N		
1.2	All Treated	Summary of Treatment Status and Reasons for Discontinuation of Study Treatment	SD4	SAC (1)	N		
1.3	All Screened	Summary of Screen Status and Reasons for Screen Failures	ES6	SAC (1)	N		
1.4	All Treated	Summary of Number of Subjects by Country and Site ID (Enrolled Population)	NS1	SAC (1)	N		
Protocol Deviation							

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Output No.	Analysis Set	Title	Mock shell	Deliverable (Priority)	Conditional (Y/N)	Condition	Programming Notes
1.5	All Treated	Summary of Important Protocol Deviations	DV1	SAC (1)	N		
1.6	All Treated	Summary of Important Non COVID-19 Related Protocol Deviations	DV1	SAC (1)	N		

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Output No.	Analysis Set	Title	Mock shell	Deliverable (Priority)	Conditional (Y/N)	Condition	Programming Notes
2.4	All Treated	Summary of Overall Survival	TTE1	SAC (1)	N		K-M estimate. 25%, median 75% percentile with 95%CI
Efficacy Figures							
Time to Event							
2.1	All Treated	Graph of Kaplan Meier Curves of Progression-Free Survival	Non-standard EFF_F1/TE10	SAC (1)	N		K-M plot. 25%, median 75% percentile with 95%CI
2.2	All Treated	Graph of Kaplan Meier Curves of Overall Survival	Non-standard EFF_F1/TE10	SAC (1)	N		K-M plot. 25%, median 75% percentile with 95%CI
Safety Tables							
Exposure and Treatment Modification							
3.1	All Treated	Summary of Duration of Exposure to Belantamab Mafodotin	OEX1	SAC (1)	N		Only include the "Time on Study Treatment" section.

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OPS Content – As Is

3. EXAMPLE MOCK SHELLS FOR DATA DISPLAYS

3.1. Tables

Example: POP_T1
Protocol: 217364
Population: All Treated

Page 1 of 1

Table [Insert Number]
Summary of Percentage of Duration of Exposure on Steroid Eye Drop Use
GSK916 2.5 mg/kg
(N=xxxx)

Percentage of Duration of exposure
prophylactic steroid eye drop

n
Mean
SD
Median
Min.
Max.

[1] Percentage of duration of exposure that was on
number of days during treatment period on which a
Treatment period is defined as treatment start date
USER ID: directory/program_sas 16JAN2004 12:01

Example: POP_T2
Protocol: 217364
Population: All Treated

Summary of Prior
Therapy Type
Agent Name
Type 1
Agent 1

TCONSORT1PART1 Table 14.1.1.1 Summary of participant disposition from Enrolled Set to Randomized Set - Enrolled Set

		<Each group> N= XXXX		<Each group> N= XXXX		Not Randomized N= XXXX		Total N= XXXX	
Category	Sub category	n	%	n	%	N	%	n	%
Withdrawals prior to randomization		XXX	XX.X	XXX	XXX	XXX	XX.X	XXX	XX.X
ADCONSRT.ACAT1									
Consent withdrawal, not due to an adverse event and/or a serious adverse event				XXX	XXX	XXX	XX.X	XXX	XX.X
Serious adverse event and/or pmd				XXX	XXX	XXX	XX.X	XXX	XX.X
Lost to follow-up				XXX	XXX	XXX	XX.X	XXX	XX.X
Other				XXX	XXX	XXX	XX.X	XXX	XX.X
Migrated / moved from the study				XXX	XXX	XXX	XX.X	XXX	XX.X
Non-serious adverse event				XXX	XXX	XXX	XX.X	XXX	XX.X
Protocol deviation		XXX	XX.X	XXX	XXX	XXX	XX.X	XXX	XX.X
Consent withdrawal, not due to a sae		XXX	XX.X	XXX	XXX	XXX	XX.X	XXX	XX.X
ADCONSRT.ACAT1									
Number of participants included in randomized set		XXX	XX.X	XXX	XXX	XXX	XX.X	XXX	XX.X

4.2. Appendix 2 Analysis Datasets

Analysis Datasets
Analysis datasets will be created according to CDISC standards [(ADaM Version 2.1 and ADaM IG Version 1.1)].
CDISC Controlled Terminology
The analysis and reporting will utilize the latest CDISC controlled terminology in effect at the time of reporting.
Submission Data Package
Data Submission Package including Define.xml v2.0 and Analysis Data Reviewer's Guide (ADRG) following the latest PhUSE template will be generated for key reporting efforts (any reporting efforts with a CSR at a minimum).

4.3. Appendix 3 Study Intervention Group Descriptions

Data Displays for Reporting	
Description	Order in Display
GSK916 2.5 mg/kg	1

4.4. Appendix 4 Reporting Standards

General
The current GSK Statistical Display Standards will be applied for reporting, unless otherwise stated.
GSK Statistical Display Principles will be followed in the creation of GSK standard and non-standard outputs.
Planned and Actual Time
Reporting for tables, figures and formal statistical analyses: Planned time relative to study intervention will be used in figures, summaries, statistical analyses and calculation of any derived parameters, unless otherwise stated.
Reporting for Data Listings: - Planned and actual time relative to study intervention dosi - Unscheduled or unplanned readings will be presented with
Formats
GSK Statistical Display Principles (5.03 & 6.06.3) for decimal places (DP's) unless otherwise stated. - Numeric data will be reported at the precision collected on the eCR - The reported precision from non eCRF sources will follow the GSK interpretable number of DP's.

4.5.2. Safety

Adverse Events (SAP sections 4.3.2)	
Adverse Events will be classified according to the time of occurrence relative to date/time of first dose of study treatment:	
Flag	Definition
Treatment Emergent	Only calculated for records where Treatment Start Date is not missing. Flag is set to "Y" when AE Start Date is missing or if AE Start Date is not missing, and AE falls within Study Treatment Start Date ≤ AE Start Date ≤ the earlier of Study Treatment End Date + 70 or the Start of Anti-Cancer Therapy Date. If the Study Treatment End Date or Start of Anti-Cancer Therapy Date is missing then use the non-missing date.
On treatment	Only calculated for records where Treatment Start Date is not missing. Flag is set to "Y" when AE Start Date is missing or if AE Start Date is not missing, and AE falls within Study Treatment Start Date ≤ AE Start Date ≤ Study Treatment End Date + 70.
- AEs of Special Interest - Corneal Events - Thrombocytopenia - Infusion-Related Reactions	
AESIs will be derived based on preferred terms identified by GSK internal review. For infusion related reactions, all events identified as IRR by GSK will be considered IRR if the start date/time of the event is within 24 hours of infusion and the event led to a temporary interruption or prolongation of infusion time or treatment withdrawal.	

Inputs to OPS – As Is



**We are ambitious ... to change the lives
of 2.5 billion people**

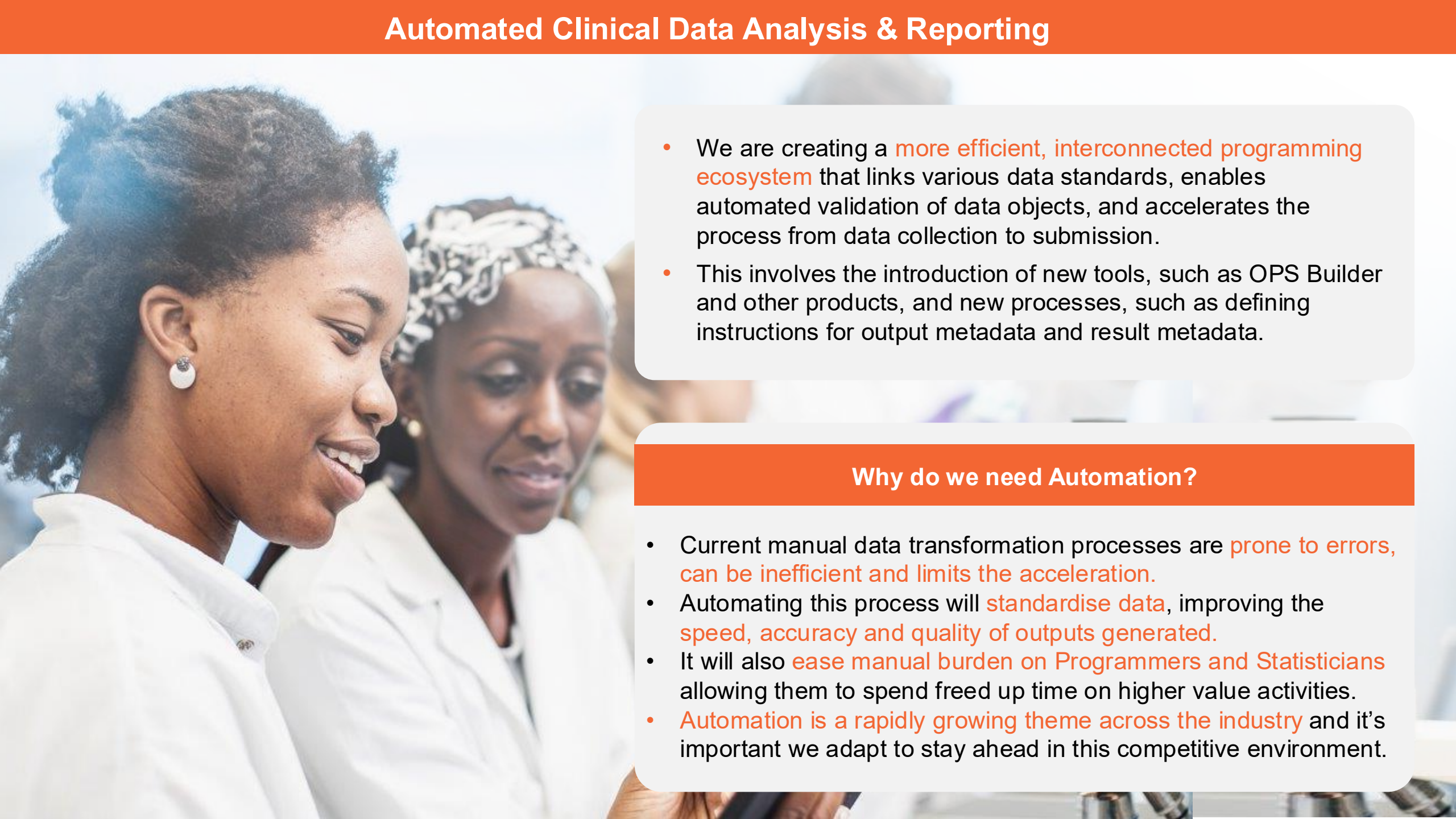
so, we did challenge the status quo

GSK

**That's courage ...
How can we transform?**

GSK

Automated Clinical Data Analysis & Reporting

- 
- A photograph of two Black women in white lab coats, likely healthcare professionals, looking at a device. The woman in the foreground is smiling and looking down, while the woman behind her is also looking down with a focused expression.
- We are creating a **more efficient, interconnected programming ecosystem** that links various data standards, enables automated validation of data objects, and accelerates the process from data collection to submission.
 - This involves the introduction of new tools, such as OPS Builder and other products, and new processes, such as defining instructions for output metadata and result metadata.

Why do we need Automation?

- Current manual data transformation processes are **prone to errors, can be inefficient and limits the acceleration.**
- Automating this process will **standardise data**, improving the **speed, accuracy and quality of outputs generated.**
- It will also **ease manual burden on Programmers and Statisticians** allowing them to spend freed up time on higher value activities.
- **Automation is a rapidly growing theme across the industry** and it's important we adapt to stay ahead in this competitive environment.

What are the key concepts of Automation?

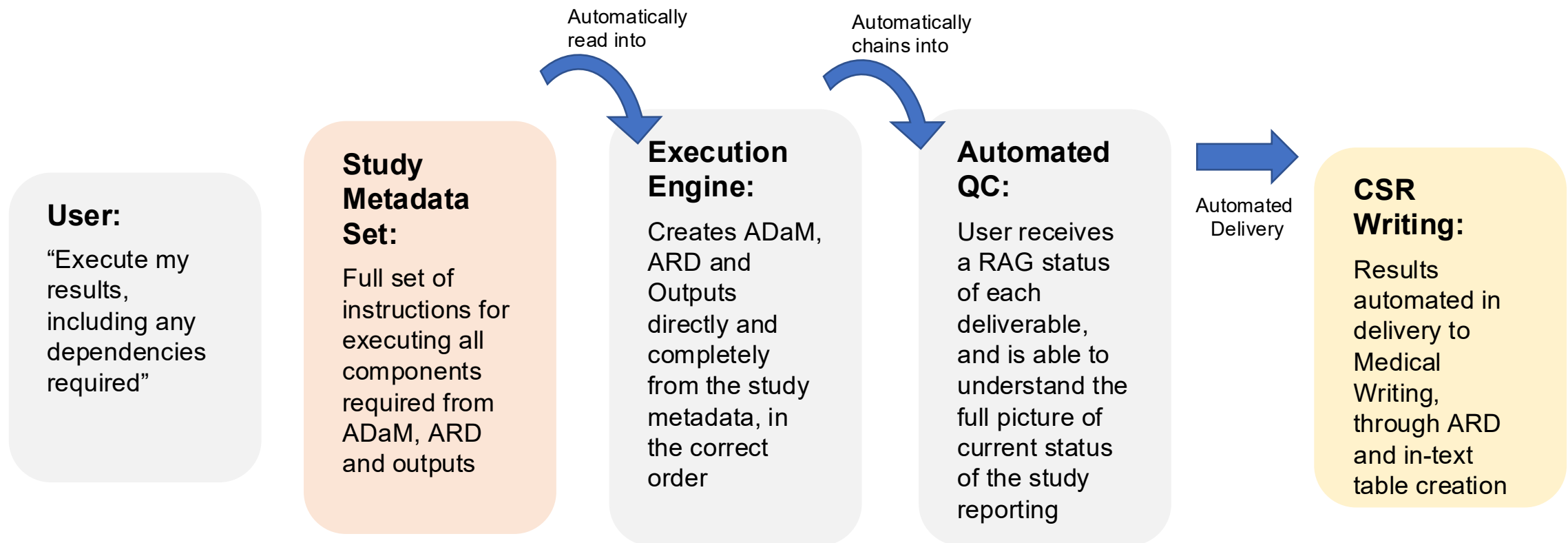
STANDARDISATION

LINKED METADATA

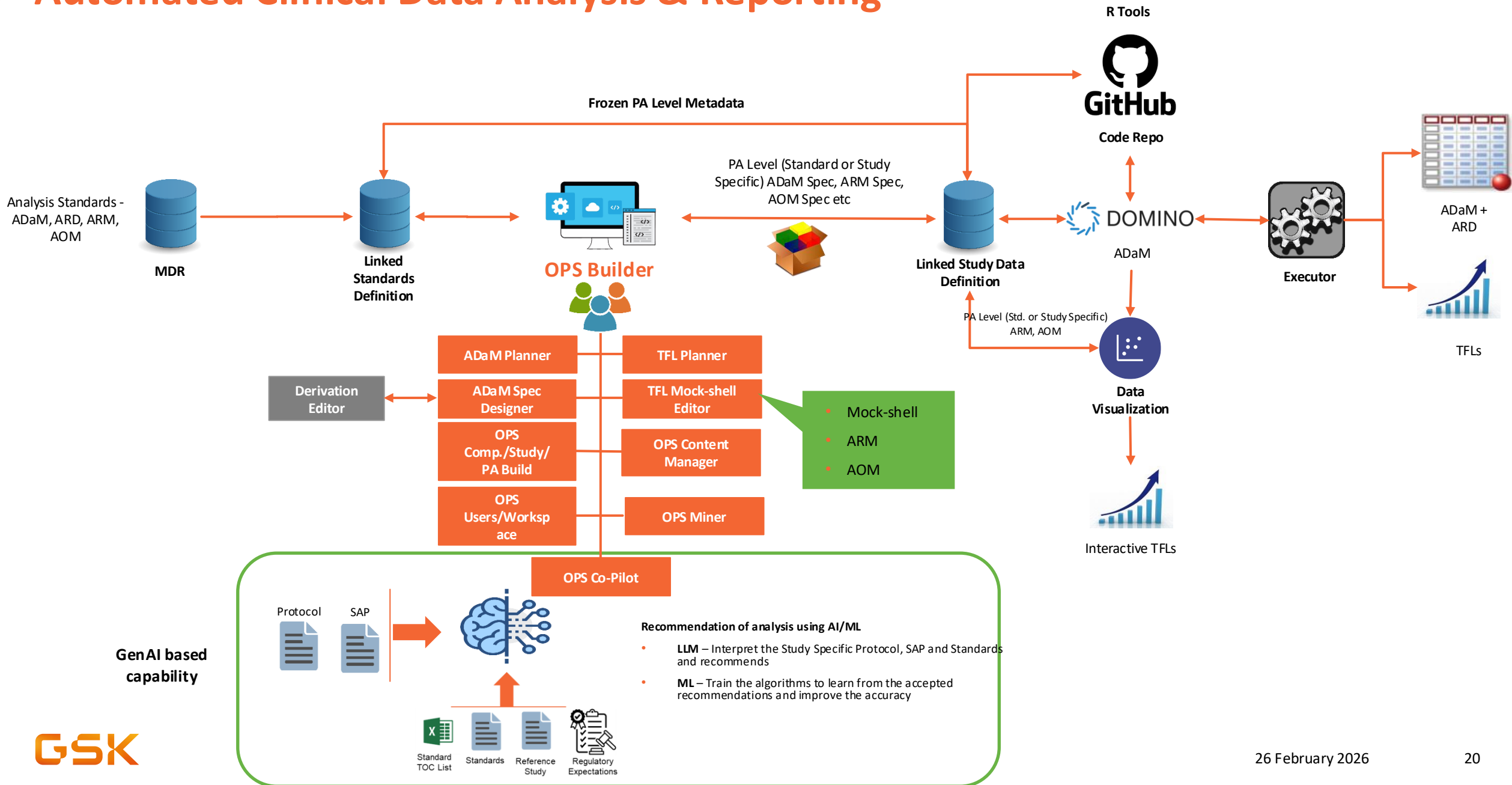
MODULARISATION

AUTOMATED TESTING

- **Availability of core e2e analysis standards**
- **Utilising linked metadata to fill the gaps between SDTM, ADaM and Analysis Results**
- **Create modularised reporting tooling, leveraging open-source technologies**
- **Automated testing to identify and mitigate data variability**



Automated Clinical Data Analysis & Reporting

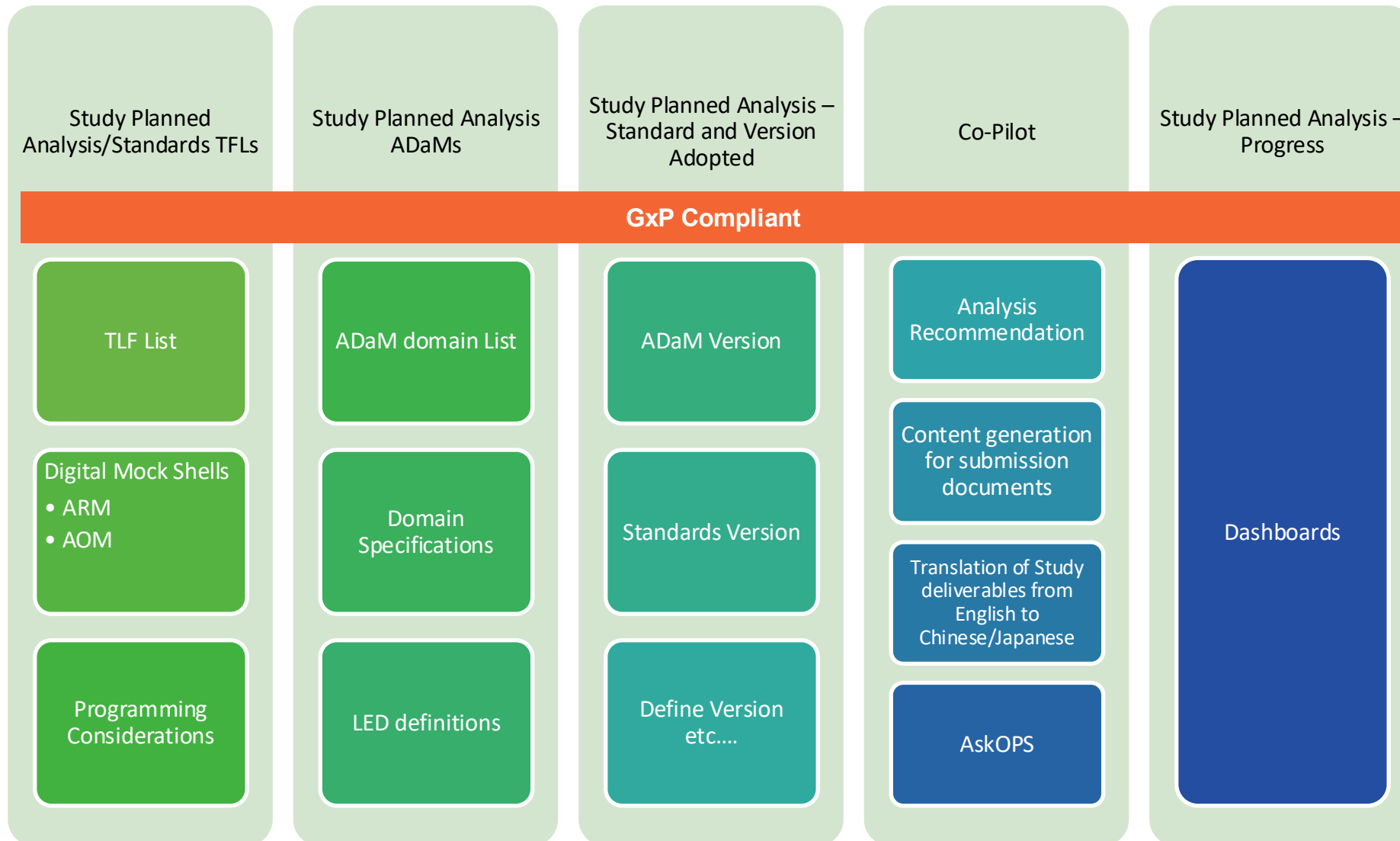


What OPS Builder?

- OPS Builder is a revolutionary product designed to transform how study teams plan, execute, and manage study and PA deliverables. Functioning as an orchestrator, it facilitates automation by meticulously curating all necessary information for study analysis and reporting processes.
- **Vision**
 - Our vision is to offer a comprehensive digital application that simplifies the selection and definition of analysis deliverables for studies. This includes the development of TFL digital mock-shells, ADaM Specifications and the registration of derivations and definitions, simplifying complex processes and enhancing efficiency.
- **Key Benefits**
 - **Automation:** OPS content is easily accessible in a digital format for downstream systems, paving the way for metadata-driven automation.
 - **Acceleration:** Experience a hyper-acceleration of pipeline delivery, optimizing the speed and reliability of study execution.
- By leveraging OPS Builder, study teams can unlock unprecedented levels of efficiency and adaptability, ensuring rapid and accurate delivery of study outputs.



Output from OPS Builder



To Enable...

From

- Cyclic development of OPS in reference to SAP/Protocol
- 2 weeks develop time (approx.)
- Manually repeating OPS development
- Limited Machine-Readable Metadata
- Humans connecting the dots



To

- Parallel processing of OPS and SAP following Protocol
- 3 days develop time (approx.)
- Write once render multiple times
- Fully Machine-Readable Metadata
- Linked Metadata via database

To Enable...

From

- 100% Human Intervention in Development and Maintenance
 - Protocol, SAP, IDSL/Vx/IDSL Standards and TFL-TOC Builder
 - Metadata (e.g., crossover, parallel)
 - Therapy area knowledge
 - Reference from reported studies
 - Clinicaltrials.gov and other public databases
 - Regulatory guidelines
 - Competitor information
 - Stakeholder inputs (e.g., Statistician, Clinicians, Safety etc)



To

- 50% Human intervention in Development and Maintenance
 - Machines to prescribe the TFL-ToC based on
 - Protocol, SAP, IDSL/Vx/IDSL Standards and TFL-TOC Builder
 - Metadata (e.g., crossover, parallel)
 - Therapy area knowledge
 - Reference from reported studies
 - Clinicaltrials.gov and other public databases
 - Regulatory guidelines

Metadata

Key Challenge

GSK

Mock-Shell

ADSL TRT01P(N) / ADSL TRT01A(N)									
TSL1DEMOG Table 14.1.3.1 Summary of demography and baseline characteristics - Enrolled Set / Exposed Set									
ADSL ENRLFL= 'Y' / ADSL ESFL= 'Y'		<Each group> N=XXXX		<Each group> N=XXXX		Not Randomized N=XXXX		Total N=XXXX	
		Value or n	%	Value or n	%	Value or n	%	Value or n	%
Age (years) at <informed consent / first dose>									
n	ADSL.AAGE1 / ADSL.AAGE2	xxx		xxx		xxx		xxx	
Mean		xxx.x		xxx.x		xxx.x		xxx.x	
Standard Deviation		xxx.x		xxx.x		xxx.x		xxx.x	
Median		xxx.x		xxx.x		xxx.x		xxx.x	
Minimum		xxx		xxx		xxx		xxx	
Maximum		xxx		xxx		xxx		xxx	
Age group [EudraCT]									
ADSL.AGEGR1(N)									
<Each age group>		xxx	xx.x	xxx	xx.x	xxx	xx.x	xxx	xx.x
Missing		xxx	xx.x	xxx	xx.x	xxx	xx.x	xxx	xx.x
Country									
ADSL.ACOUNTRY									
<Each country>		xxx	xx.x	xxx	xx.x	xxx	xx.x	xxx	xx.x
Center Name									
ADSL.SITEID									
<Each Center name>		xxx	xx.x	xxx	xx.x	xxx	xx.x	xxx	xx.x
Sex									
ADSL.SEX(N)									
<Each sex>		xxx	xx.x	xxx	xx.x	xxx	xx.x	xxx	xx.x
Ethnicity									
ADSL.ETHNIC(N)									
<Each ethnicity>		xxx	xx.x	xxx	xx.x	xxx	xx.x	xxx	xx.x
Race									
ADSL.RACEOR(N)									
<Each race>		xxx	xx.x	xxx	xx.x	xxx	xx.x	xxx	xx.x

N = number of participants

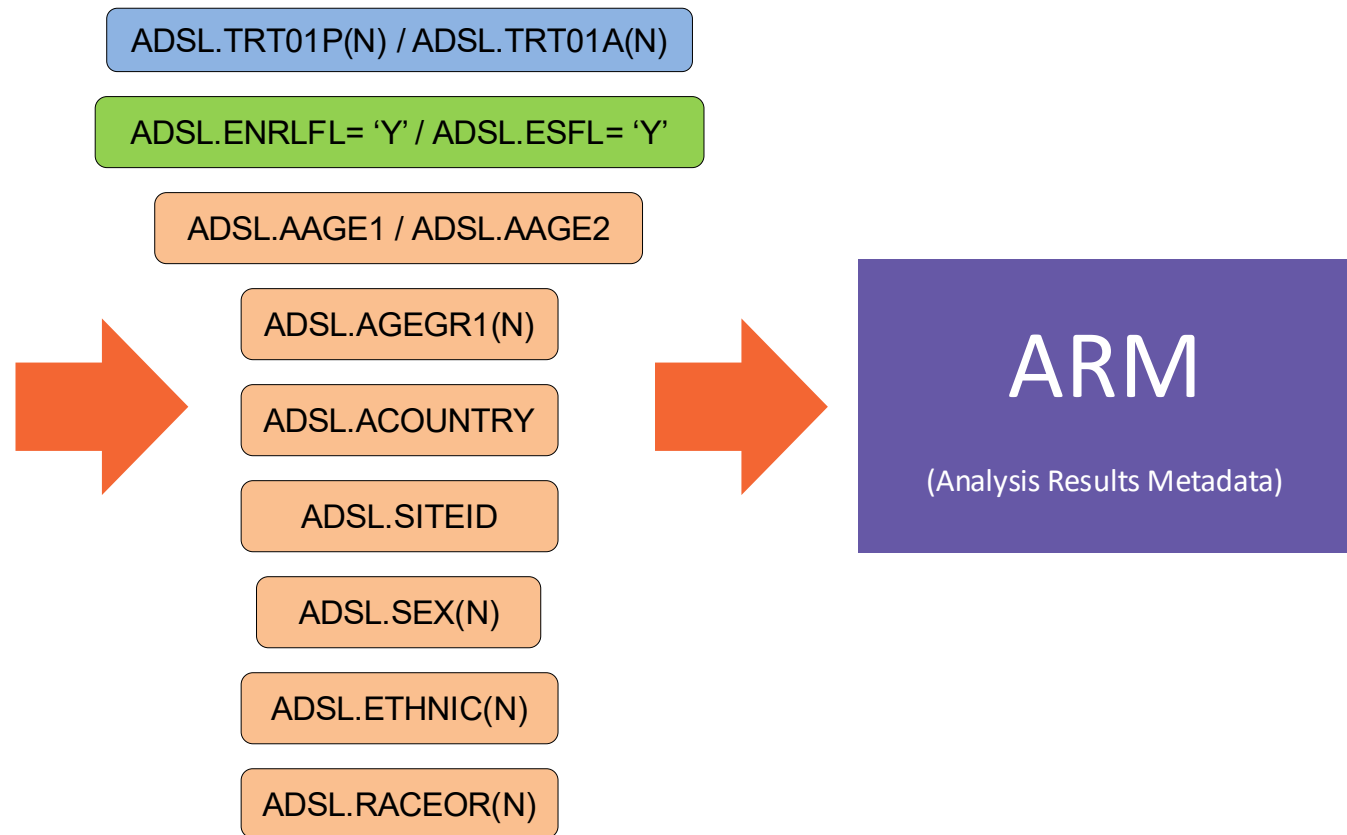
n/% = number / percentage of participants in a given category

Mock-Shell as Metadata Element

TS11DEMOG Table 14.1.3.1 Summary of demography and baseline characteristics - Enrolled Set / Exposed Set

	ADSL.ENRLFL= 'Y' / ADSL.ESFL= 'Y'	<Each group> N=XXXX	%	<Each group> N=XXXX	%	Not Randomized N=XXXX	%	Total N=XXXX	%
Age (years) at <informed consent / first dose>									
n	ADSL.AAGE1 / ADSL.AAGE2	xxx		xxx		xxx		xxx	
Mean		xxx.x		xxx.x		xxx.x		xxx.x	
Standard Deviation		xxx.x		xxx.x		xxx.x		xxx.x	
Median		xxx.x		xxx.x		xxx.x		xxx.x	
Minimum		xxx		xxx		xxx		xxx	
Maximum		xxx		xxx		xxx		xxx	
Age group [EudraCT]	ADSL.AGEGR1(N)								
<Each age group>		xxx	xx.x	xxx	xx.x	xxx	xx.x	xxx	xx.x
Missing		xxx	xx.x	xxx	xx.x	xxx	xx.x	xxx	xx.x
Country	ADSL.ACOUNTRY								
<Each country>		xxx	xx.x	xxx	xx.x	xxx	xx.x	xxx	xx.x
Center Name	ADSL.SITEID								
<Each Center name>		xxx	xx.x	xxx	xx.x	xxx	xx.x	xxx	xx.x
Sex	ADSL.SEX(N)								
<Each sex>		xxx	xx.x	xxx	xx.x	xxx	xx.x	xxx	xx.x
Ethnicity	ADSL.ETHNIC(N)								
<Each ethnicity>		xxx	xx.x	xxx	xx.x	xxx	xx.x	xxx	xx.x
Race	ADSL.RACEOR(N)								
<Each race>		xxx	xx.x	xxx	xx.x	xxx	xx.x	xxx	xx.x

N = number of participants
n/% = number / percentage of participants in a given category



Mock-Shell as Metadata Element

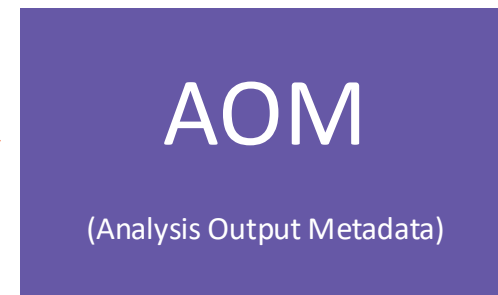
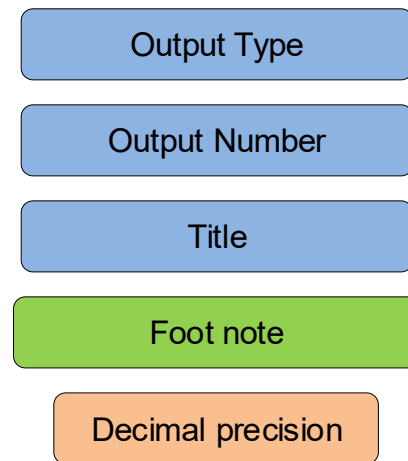
ADSL TRT01P(N) / ADSL TRT01A(N)

TSL1DEMOG Table 14.1.3.1 Summary of demography and baseline characteristics - Enrolled Set / Exposed Set

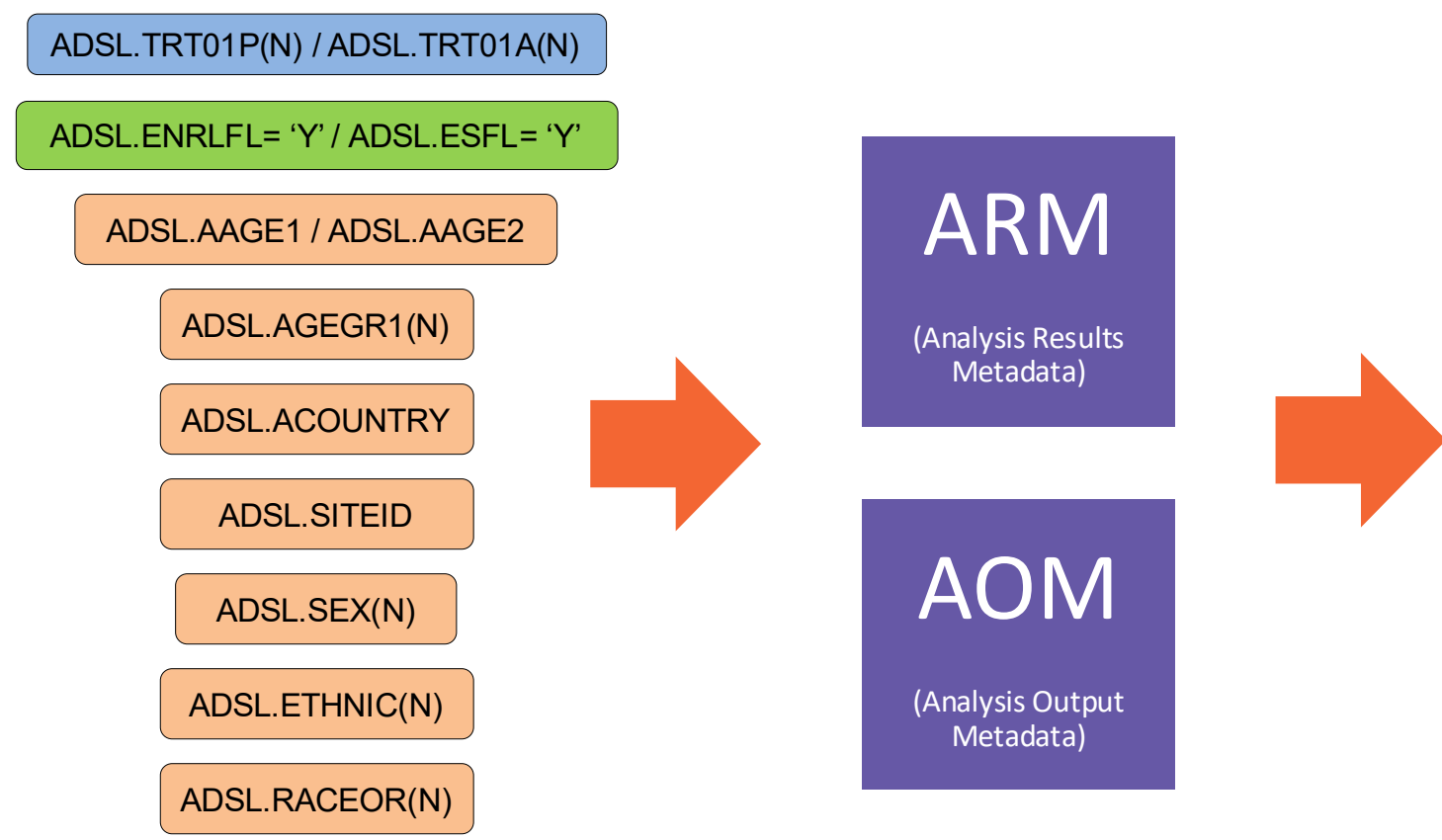
ADSL ENRFL=Y / ADSL ESFL=Y

		<Each group> N=XXXX		<Each group> N=XXXX		Not Randomized N=XXXX		Total N=XXXX	
		Value or n	%	Value or n	%	Value or n	%	Value or n	%
Age (years) at <informed consent / first dose>									
n	ADSL AAGE1 / ADSL AAGE2	xxx		xxx		xxx		xxx	
Mean		xxx.x		xxx.x		xxx.x		xxx.x	
Standard Deviation		xxx.x		xxx.x		xxx.x		xxx.x	
Median		xxx.x		xxx.x		xxx.x		xxx.x	
Minimum		xxx		xxx		xxx		xxx	
Maximum		xxx		xxx		xxx		xxx	
Age group [EudraCT]	ADSL AGEGR1(N)								
<Each age group>		xxx	xx.x	xxx	xx.x	xxx	xx.x	xxx	xx.x
Missing		xxx	xx.x	xxx	xx.x	xxx	xx.x	xxx	xx.x
Country	ADSL ACOUNTRY								
<Each country>		xxx	xx.x	xxx	xx.x	xxx	xx.x	xxx	xx.x
Center Name	ADSL SITEID								
<Each Center name>		xxx	xx.x	xxx	xx.x	xxx	xx.x	xxx	xx.x
Sex	ADSL SEX(N)								
<Each sex>		xxx	xx.x	xxx	xx.x	xxx	xx.x	xxx	xx.x
Ethnicity	ADSL ETHNIC(N)								
<Each ethnicity>		xxx	xx.x	xxx	xx.x	xxx	xx.x	xxx	xx.x
Race	ADSL RACEOR(N)								
<Each race>		xxx	xx.x	xxx	xx.x	xxx	xx.x	xxx	xx.x

N = number of participants
n% = number / percentage of participants in a given category



ADaM - Metadata



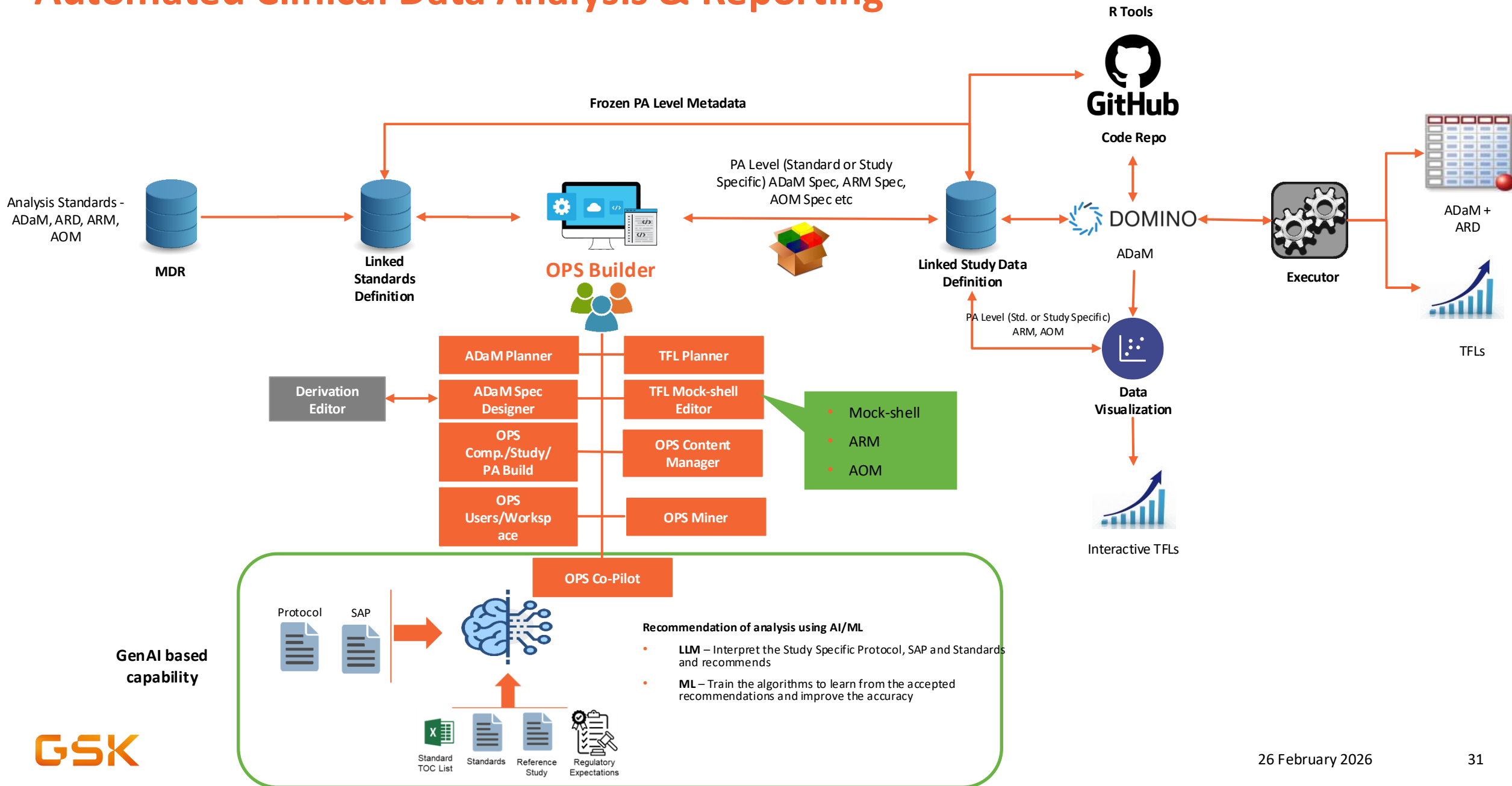
ADaM Dataset	ADaM Variable	Associated Metadata
ADSL	TRT01P	CT, LED, VLM etc
ADSL	TRT01A	CT, LED, VLM etc
ADSL	ENRLFL	CT, LED, VLM etc
ADSL	ESFL	CT, LED, VLM etc
ADSL	AAGE1	CT, LED, VLM etc
ADSL	AAGE2	CT, LED, VLM etc
ADSL	AGEGR1	CT, LED, VLM etc
ADSL	ACOUNTRY	CT, LED, VLM etc
ADSL	SITEID	CT, LED, VLM etc
ADSL	SEXN	CT, LED, VLM etc

User Experiance

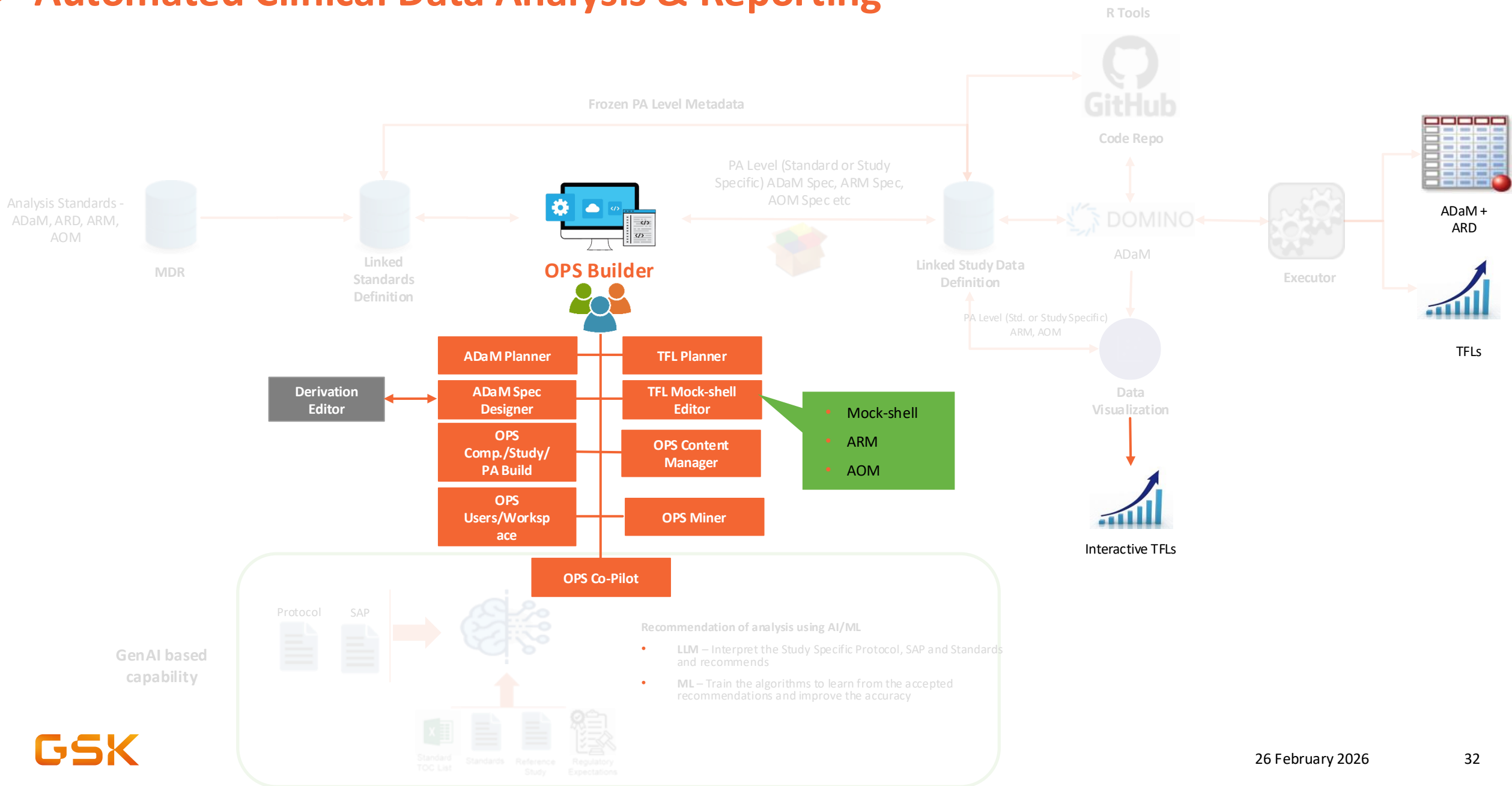
Key Challenge

GSK

Automated Clinical Data Analysis & Reporting



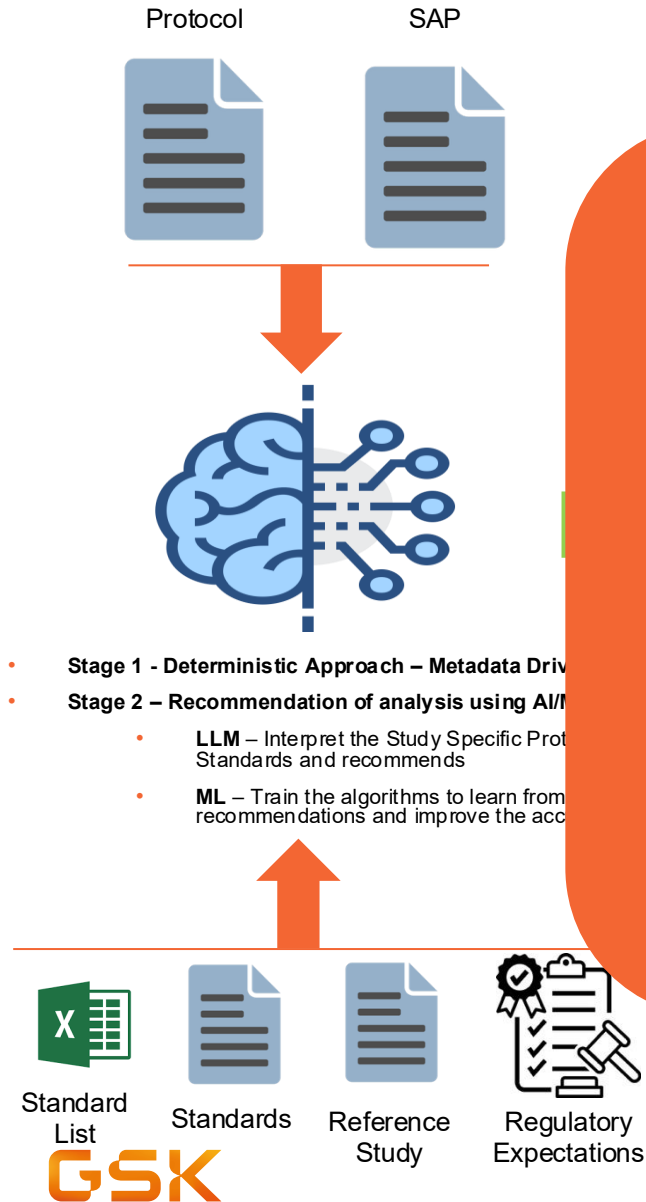
Automated Clinical Data Analysis & Reporting



Where are we today in this journey ?

GSK

TFLs Recommendation



We conducted experiments with TFL recommendations, yielding promising results. However, accuracy varies significantly across domains, so we have paused implementation pending further refinement.

Future plans include leveraging metadata-driven automated workflows to retrain and optimize the model. We are also monitoring outcomes from the eProtocol and eSAP initiatives to inform next steps.

Reduces hallucination and increases trust on the systems



Standard TFLs

Non-Standard TFLs

Standard TFLs

[illegible][illegible][illegible]

Non-Standard TFLs

An illustration of a blue laptop. The screen is white and displays the word 'SUCCESS' in large, bold, blue capital letters. Above the text is a green circle with a white checkmark. Below the text is a green progress bar that is 100% full, with '100%' written in the center. To the right of the progress bar are two blue gears. In the top left corner of the screen is a blue square icon with white code symbols '</>'. The screen is surrounded by colorful confetti (green, yellow, orange, blue). The laptop is set against a dark blue background.

[illegible]

This image shows a single sheet of white paper with horizontal blue lines, similar to standard notebook paper. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

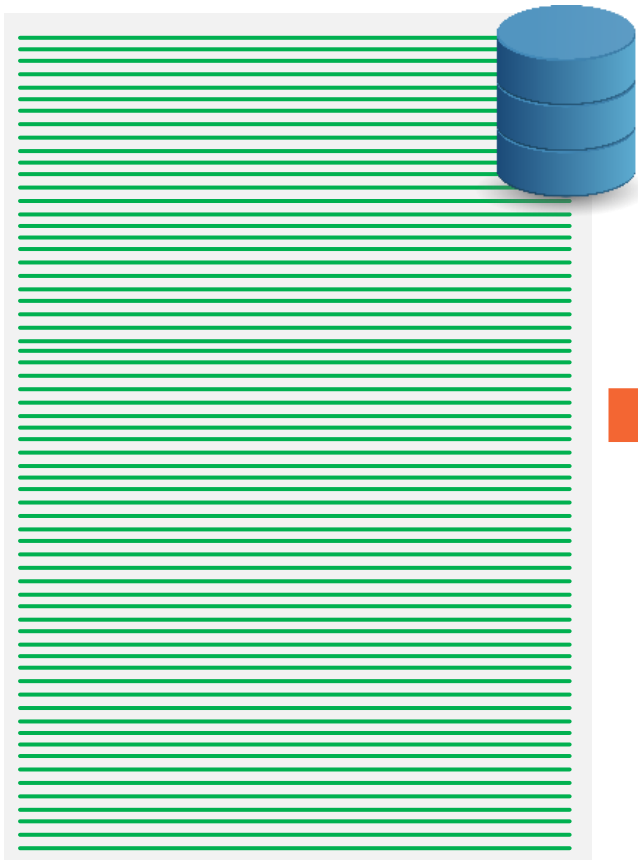
[illegible]

NAME	LABEL
adacq	Asthma Control Questionnaire Analysis
	Adverse Events Analysis
	of Special Interest Analysis
	Family History Analysis
	Medications GSKDRUG Analysis
	Medications WHODRUG Analysis
	COVID-19 Analysis Dataset
	CT Scan Analysis
	Cardiovascular Events Analysis
	Death Analysis
	Daily Diary Analysis
	Weekly Diary Analysis
	Diary Improvement Analysis
	Geographic Qualifiers Analysis
	Disposition Analysis
advv	Deviation and Pop Exclusion Analysis
addx	Self Injection Exposure Analysis
adeg	ECG Analysis
adex	Exposure Analysis
adexac	Exacerbation Analysis
adexaca	Asthma Exacerbation Summary Analysis

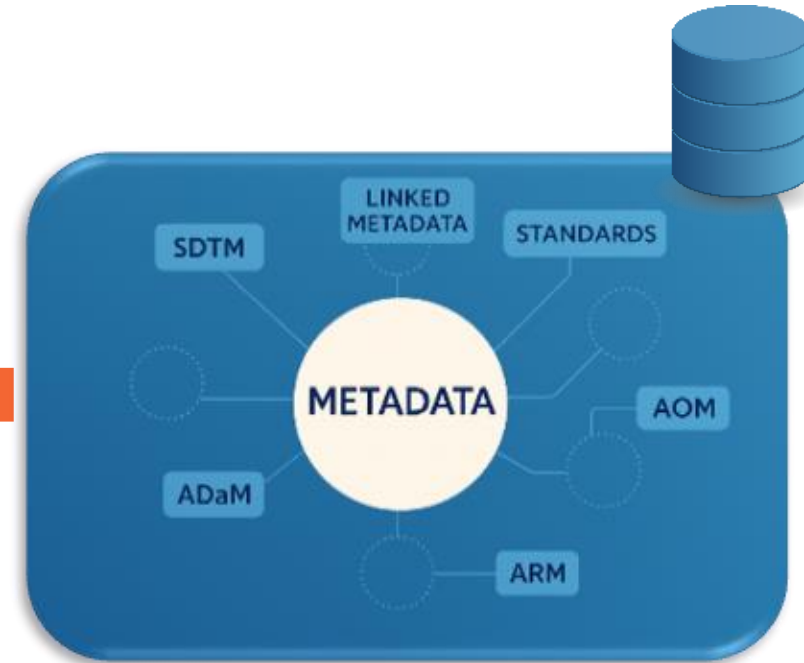
To Enable Automation ...

Every detail is in machine readable format in database

Study – Planned Analysis TFLs List



Study – Planned Analysis ADaM List



DRY (Don't Repeat Yourself)

Automation ...

Let the machine do that the job now – faster, efficient & high quality



Thank You!

Q&A

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