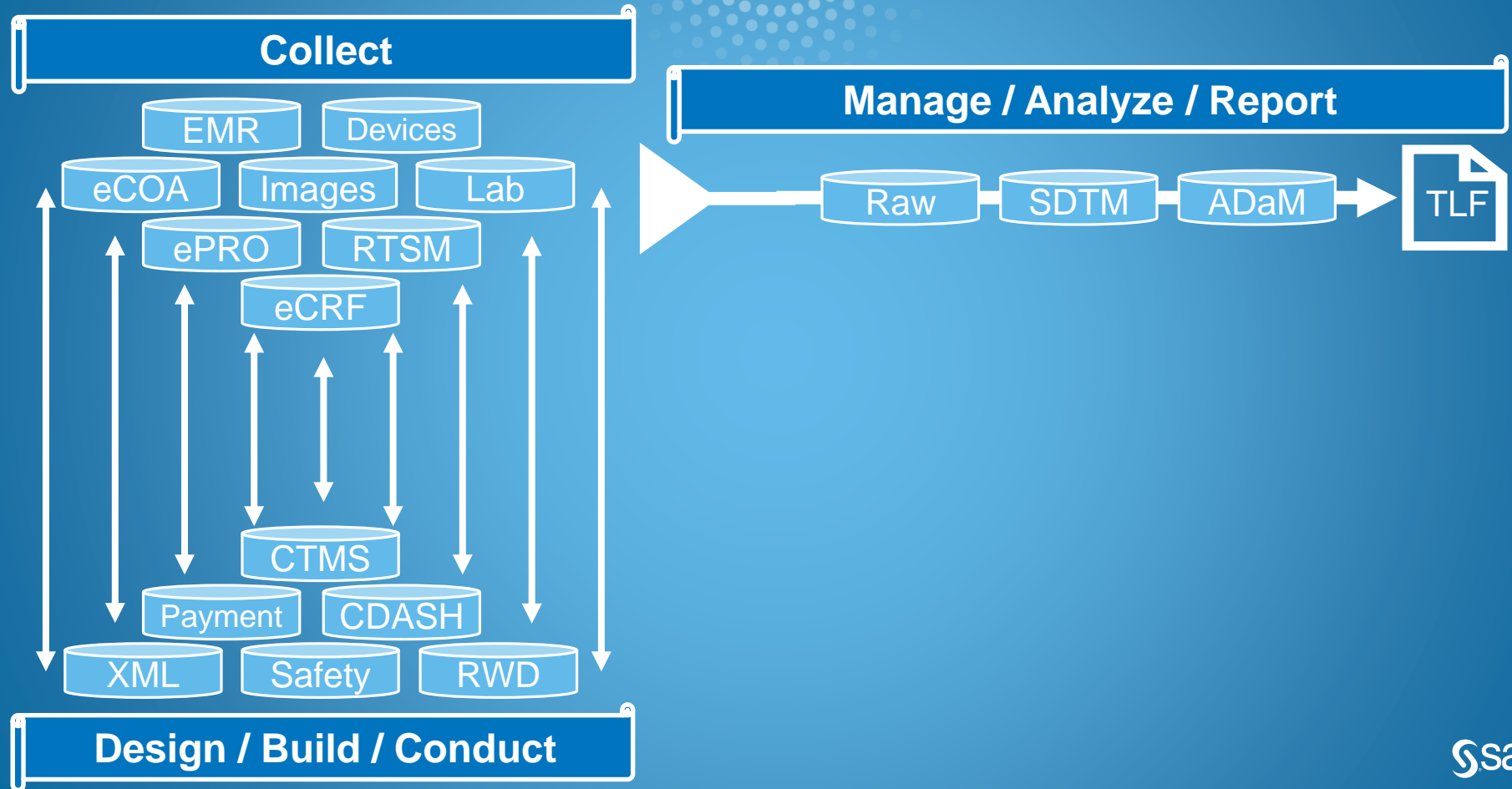


*Technology should  
enable workflow by  
connecting systems  
and analytical methods*

# Goal: Automating Decisions



# Goal: Automating Decisions

**Collect**

**Manage / Analyze / Report**

EMR

Devices

eCOA

Images

Lab

ePRO

RTSM

Raw

SDTM

ADaM

TLF

## Where Are Decisions Made?

CTMS

Payment

CDASH

XML

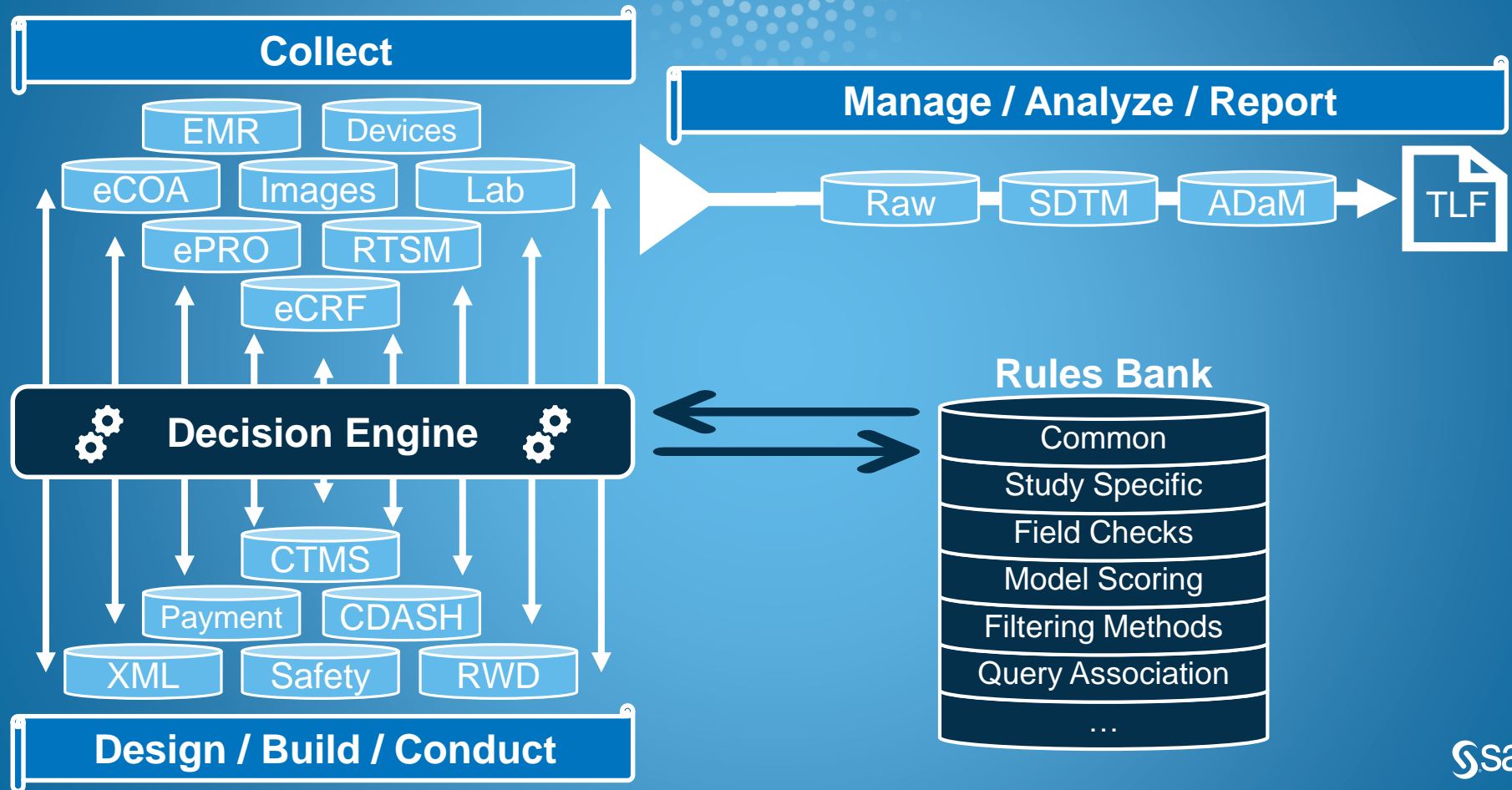
Safety

RWD

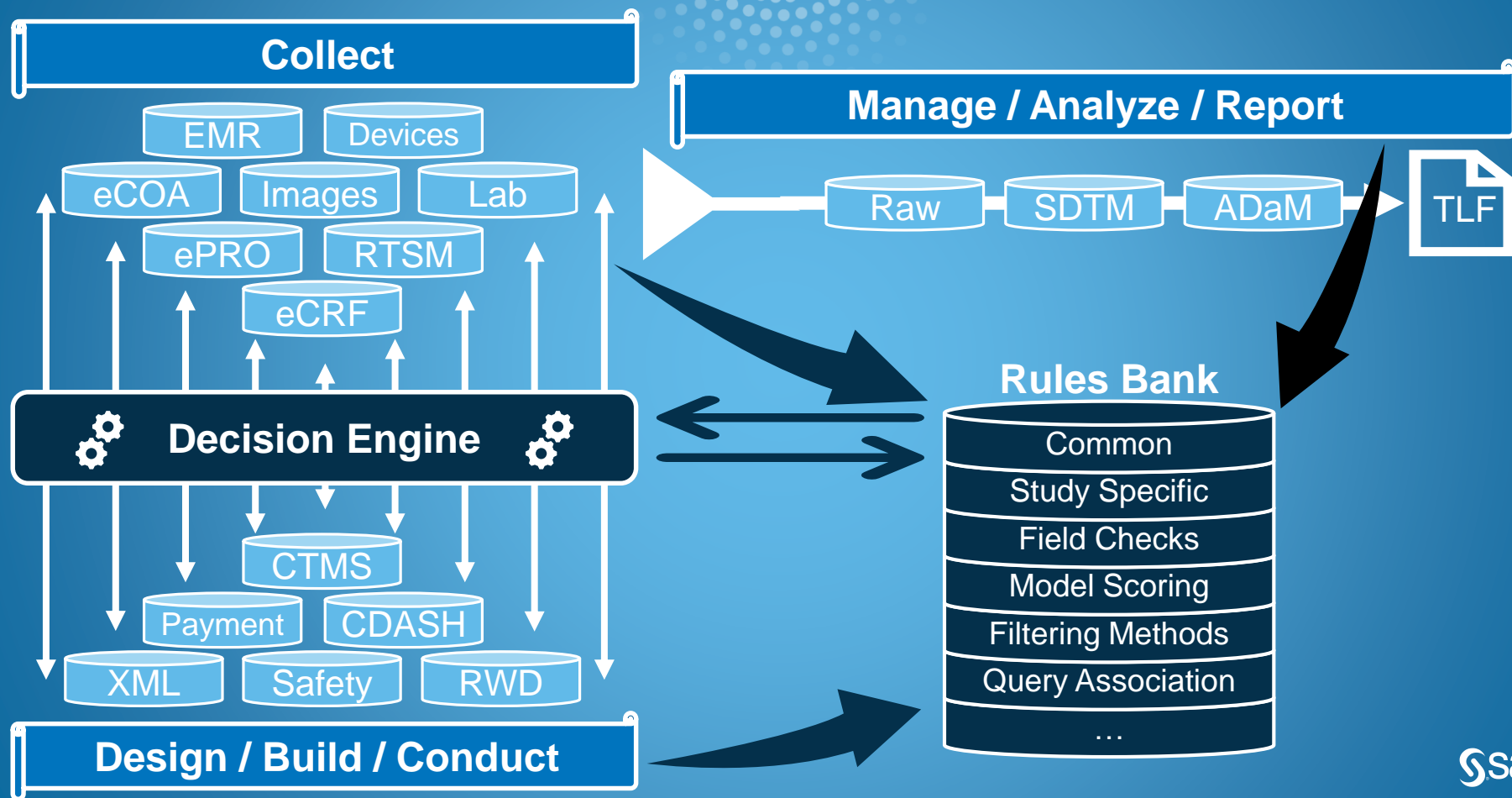
**Design / Build / Conduct**



# Goal: Automating Decisions

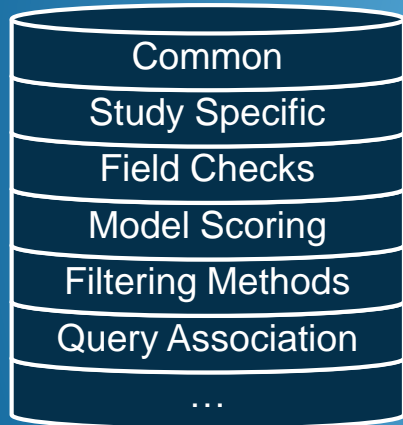


# Goal: Automating Decisions



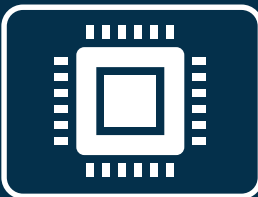
# Goal: Automating Decisions

## Rules Bank



Checks: Translate business knowledge to *if-then-else* rules.

Query Association: Take previous query logic and detect new entries that may also match.



Filtering Methods: Bayesian Filters for more dynamic field level edit checks. Use RWD to build priors for trial cohort (Inclusion/Exclusion).



Models: Machine Learning Techniques for anomaly detection like Isolation Forest, Support Vector Data Description, Moving Windows PCA, Clustering techniques.

# Thank You!

Mike Henderson

SAS Healthcare and Life Sciences Customer Advisory Leader

[Mike.Henderson@sas.com](mailto:Mike.Henderson@sas.com)



<https://www.linkedin.com/in/statmike/>



<https://www.statmike.com> (Slides to be posted)



<https://www.github.com/statmike>