ACCELERATED DATA INFRASTRUCTURE TO POWER BRAND LAUNCH

JULY 2021

MEET THE TEAM

KARTHIK MOHAN

PRODUCT ARCHITECT

Karthik is working as Product Architect for Product and Platforms at D Cube Analytics. He has 14+ years of experience in Business Intelligence, Analytics systems with Fortune 100 enterprises under Pharma, Retail and Hi-tech domain. Karthik has expertise in architecting and engineering data ecosystems based on cloud and on-premise platforms.

SUBIDYA BHARATI

ASSOCIATE PRODUCT ARCHITECT

Subidya is working as Associate Product Architect for Product and Platforms at D Cube Analytics. She has 12+ years of experience in BI solutions and Data Engineering & Analytics, delivering data driven applications, and improving data governance by leveraging strong technology and leadership skills. Subidya has worked with Fortune 100 clients on designing data lake solutions that leverages their data to turn into intelligent solutions within Cloud platforms like AWS and Azure.

SHASHANK SHIVDEV

CONSULTANT

Shashank is working as a Consultant for Analytics & Reporting at D Cube Analytics. He has 7+ years of Industry experience in Commercial, Managed Markets and RWD Analytics, and Sales Force Effectiveness with expertise across both US and outside US geographies. Shashank has been involved in developing BI & Reporting as well as secondary analytics solutions for multiple fortune 500 customers.
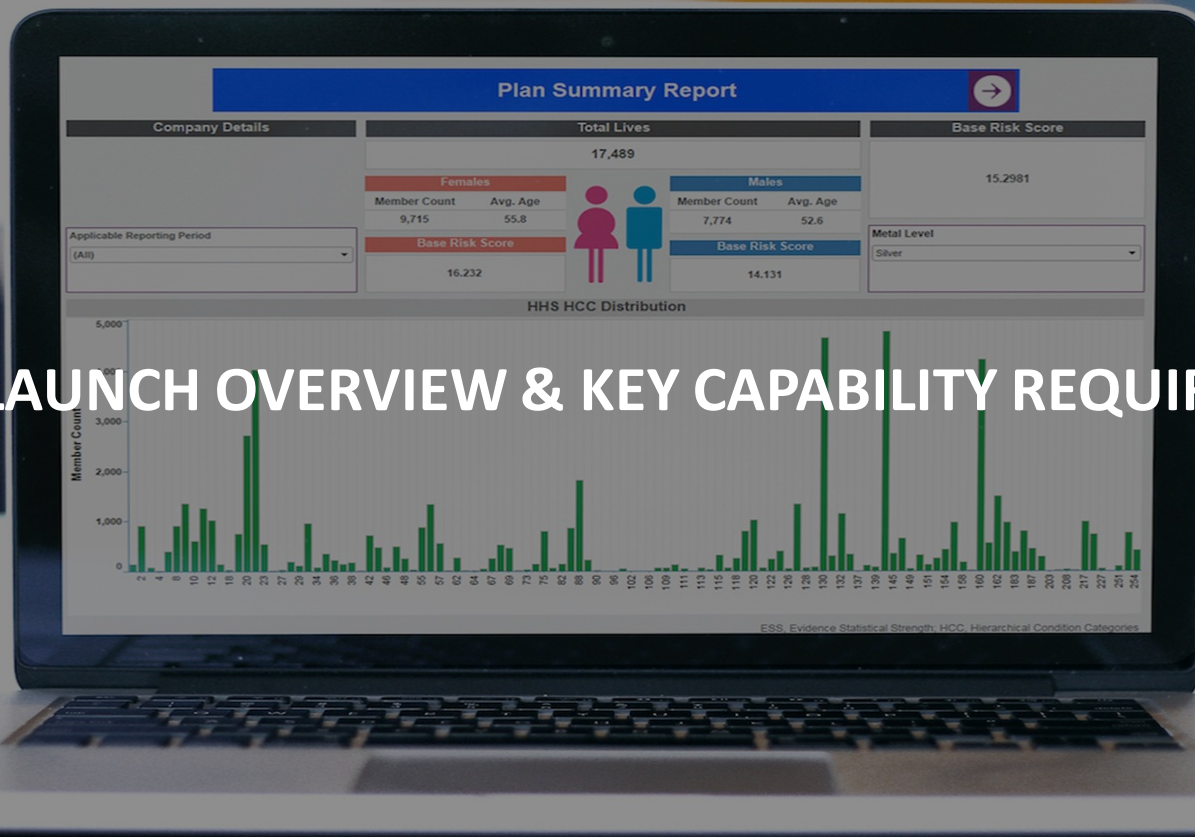
OUR AGENDA TODAY

1. Brand Launch Journey & Analytics Overview

2. Brand Launch Analytics - Challenges & Mitigation

3. Overview of Brand Launch Solution Framework

4. Customer Case Studies

BRAND LAUNCH OVERVIEW & KEY CAPABILITY REQUIREMENTS

"A Brand launch is basically the first market introduction of a medicinal product after termination of production and thereof introduction to distribution chain "

Different Activities Under a Typical Brand Launch Process

Marketing Insights	Stakeholder Insights	Operational Readiness	Measurement
▪ Opportunity profiling ▪ Patient demographics + flow ▪ Competitive Landscape	▪ HCP Universe Definition ▪ Payer Universe Definition	▪ Sales Ops ▪ MCM Activities ▪ Manufacturing & Distribution ▪ Data Preparedness ▪ IT Readiness ▪ Contracting	▪ ICPI Training ▪ Launch War room ▪ Predictive Modeling ▪ MMX Optimization ▪ Continuous Feedback

OVERVIEW OF BRAND LAUNCH TIMELINES

	T-24	T-18	T-12	Launch

Marketing Insights

Opportunity profiling
Patient demographics + flow

Competitive Landscape

- Understand diagnosis and treatment patterns
- Identify patient cohorts where brand value is maximized, and MOA is best suited
- Define market basket and calculate the existing market share for the competitors to identify which competitors are dominating the market

Stakeholder Insights

HCP Universe Definition
Payer Universe Definition

- Identify and define HCPs/Account universe mix by region/segment
- Identify potential early adopters in the market who have high brand/company affinity
- Understand the Payer Mix of the market, conduct study of existing formulary mix

Operational Readiness

- Conduct Sales Forecast, Field force size and structure, Territory alignment, Call Planning, SF Training, compensation
- Configure and deploy reports and dashboards, Prepare and launch CRM system
- Develop marketing access plan, Determine government pricing, Develop pull-through messaging & tools
- Develop payer strategy, Determine National or local coverage, Negotiate contract with payers
- Identify and develop infrastructure, Prepare for Distribution and On-going manufacturing, Packaging decisions and development, Volume forecast

Sales Ops
MCM Activities
Manufacturing & Distribution
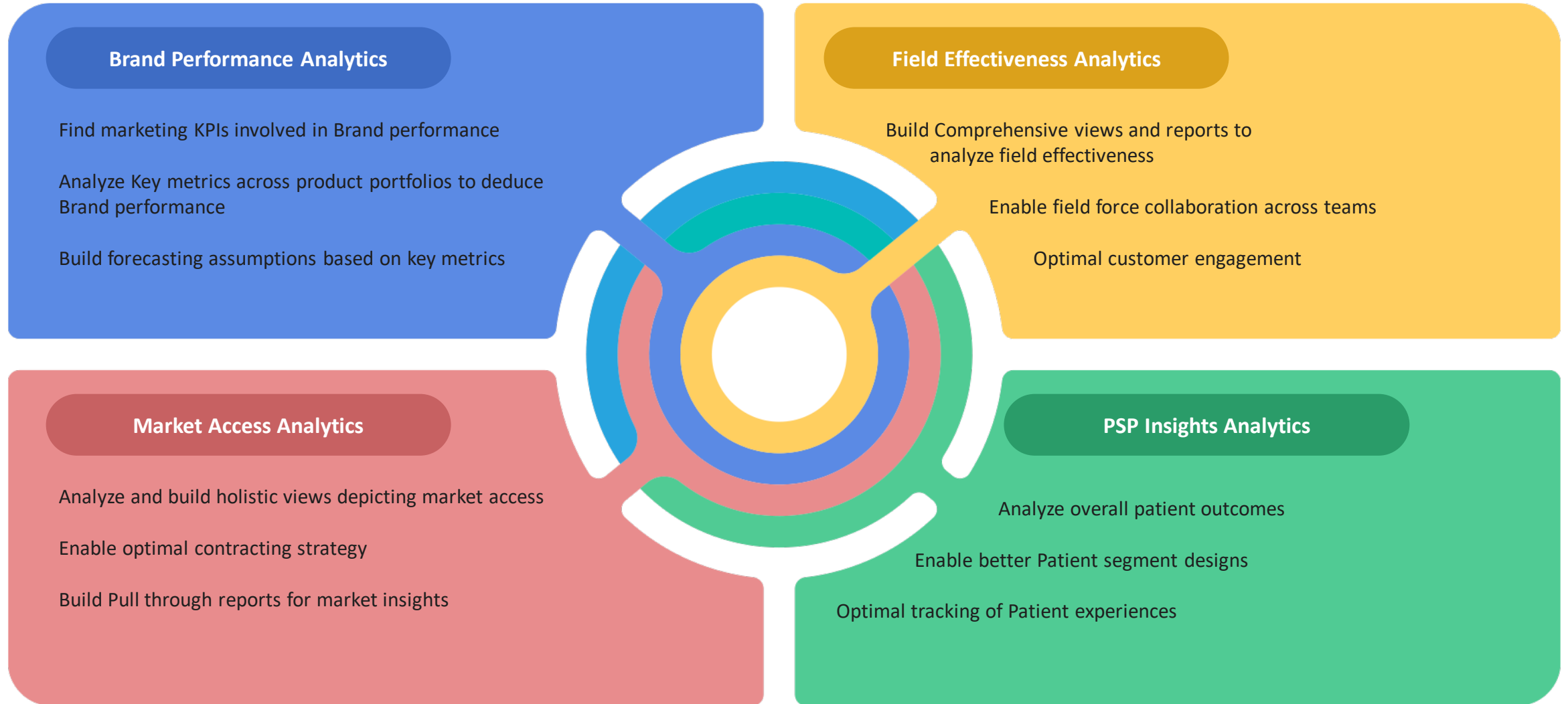**Data Preparedness**
IT Readiness
Contracting

Measurement

- Track launch performance at a granular levels across stakeholders and regions
- Adjust market forecast based on initial drug uptake
- Optimize channels for sales and marketing based on initial reaction from stakeholders
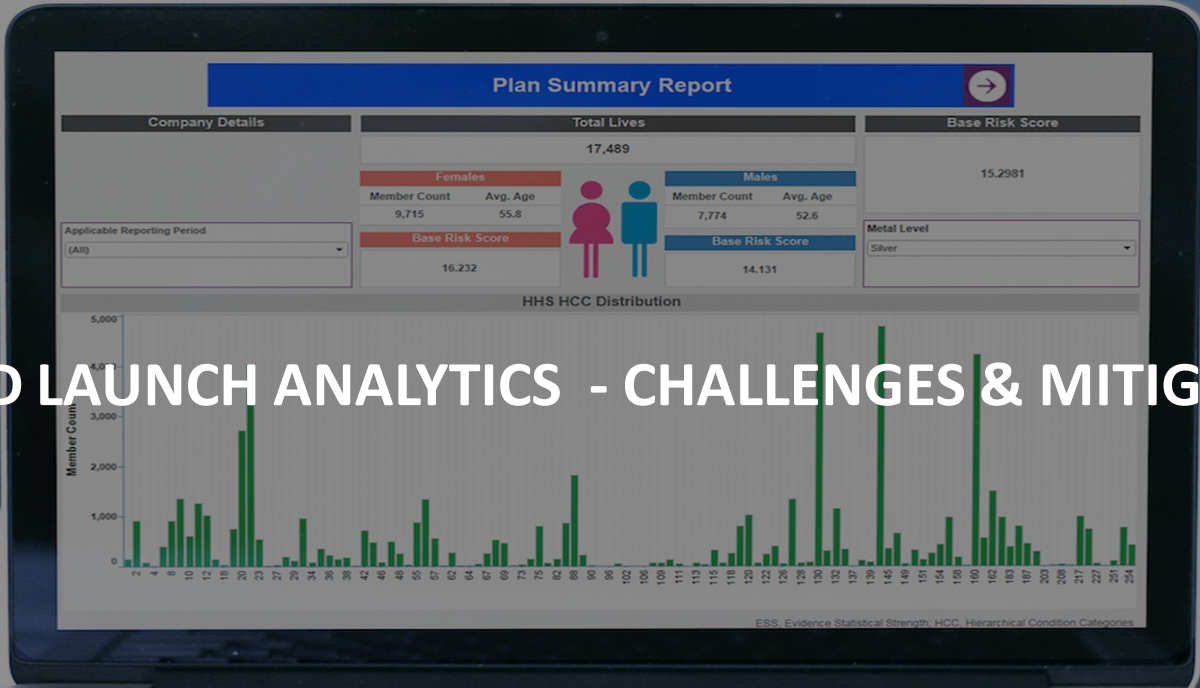- Collect feedback from field force and other stakeholders to adjust marketing strategies

ICPI Training
Launch War room
Predictive Modeling
MMX Optimization
Continuous Feedback

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ANALYTICS TO ENABLE SUCCESSFUL BRAND LAUNCH

Brand Performance Analytics

Find marketing KPIs involved in Brand performance

Analyze Key metrics across product portfolios to deduce Brand performance

Build forecasting assumptions based on key metrics

Field Effectiveness Analytics

Build Comprehensive views and reports to analyze field effectiveness

Enable field force collaboration across teams

Optimal customer engagement

Market Access Analytics

Analyze and build holistic views depicting market access

Enable optimal contracting strategy

Build Pull through reports for market insights

PSP Insights Analytics

Analyze overall patient outcomes

Enable better Patient segment designs

Optimal tracking of Patient experiences

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BRAND LAUNCH ANALYTICS - CHALLENGES & MITIGATION

TYPES OF CHALLENGES IMPACTING BRAND LAUNCH ANALYTICS

DATA INFRASTRUCTURE CHALLENGES

Scattered Data Availability, Siloed data marts & Restricted data access

Need for "less tech heavy" tools for effective data analysis for data analysts

Inability to provide functional information about the data

Need for more intuitive Data quality rules and easier to apply interface

Need for framework driven approach for analytics

INSIGHT DELIVERY CHALLENGES

High Time to Insights

Non standardized processes and inconsistent integration patterns

Delivery of Alerts and actionable insights missing

Single view of Brand Launch metrics to enable collaboration

Inconsistent Integration patterns for downstream leading to poor automation

PROBLEMS FACED WHEN DATA INFRASTRUCTURE CHALLENGES ARE UNADDRESSED

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PROBLEMS FACED WHEN CHALLENGES ARE NOT MITIGATED

Absence of Single version of Truth across organization creating low trust on data and decisions

Subjective Interpretation of Insights leading to inconsistent business actions

Users are needed to look at insights at multiple places resulting in low productivity

Data Driven Actions have low confidence due to poor/siloed data

Increased Operational cost

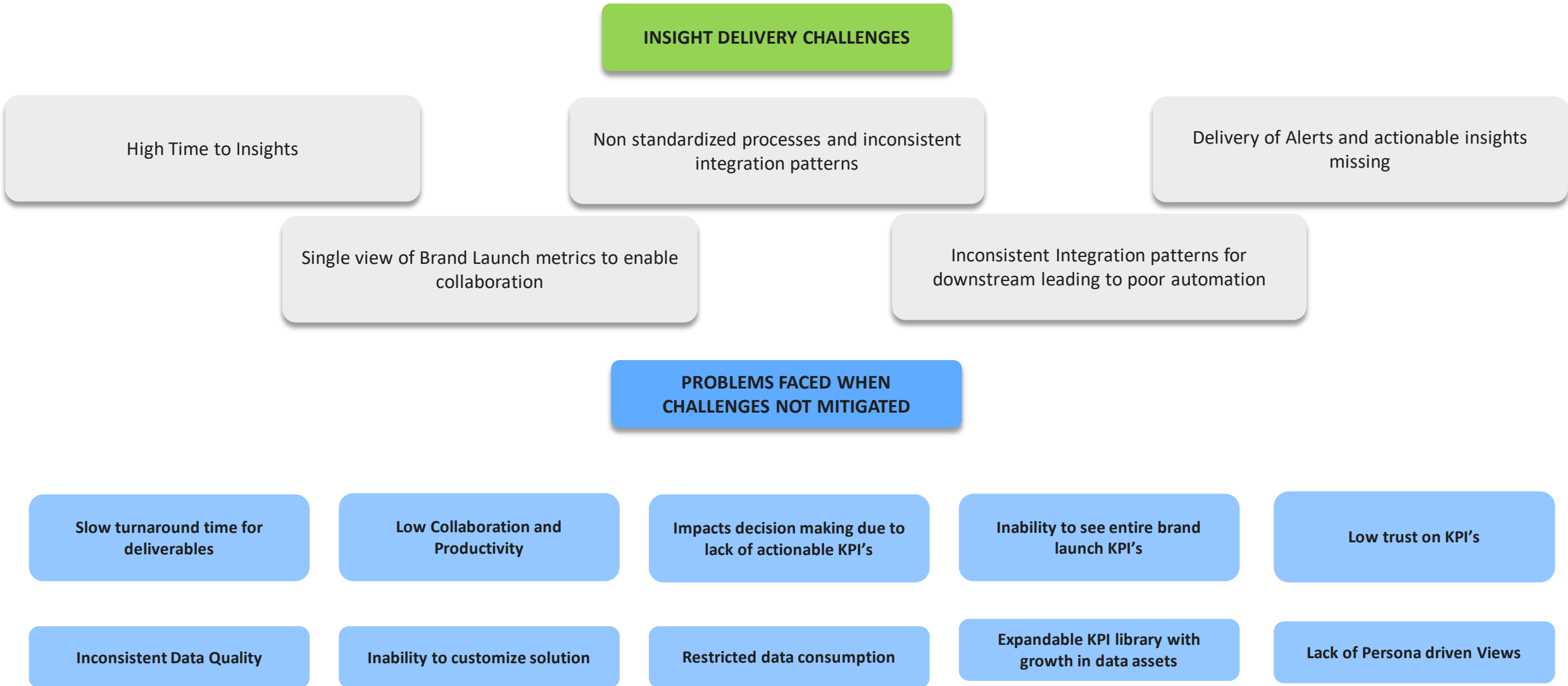Dependency on niche technical developers increasing costs

Data Loss due to poor archival strategies

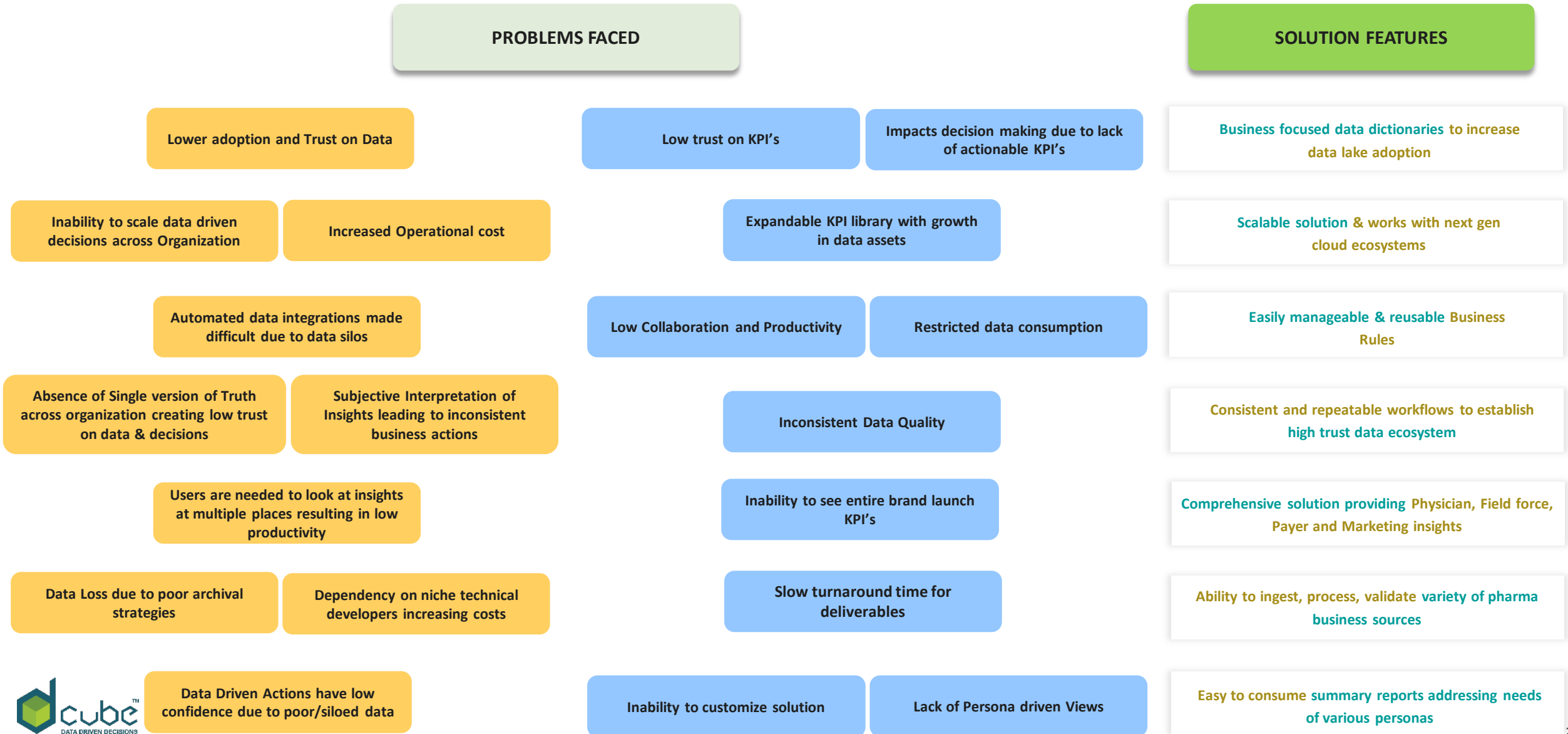Automated data integrations made difficult due to data silos

Inability to scale data driven decisions across Organization

Lower adoption and Trust on Data

PROBLEMS FACED WHEN INSIGHT DELIVERY CHALLENGES ARE UNADDRESSED

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PROBLEMS FACED WHEN CHALLENGES NOT MITIGATED

Slow turnaround time for deliverables

Low Collaboration and Productivity

Impacts decision making due to lack of actionable KPI's

Inability to see entire brand launch KPI's

Low trust on KPI's

Inconsistent Data Quality

Inability to customize solution

Restricted data consumption

Expandable KPI library with growth in data assets

Lack of Persona driven Views

SOLUTION FEATURES TO MITIGATE THE PROBLEMS

PROBLEMS FACED		SOLUTION FEATURES

Lower adoption and Trust on Data

Low trust on KPI's | Impacts decision making due to lack of actionable KPI's

Business focused data dictionaries to increase data lake adoption

Inability to scale data driven decisions across Organization | **Increased Operational cost**

Expandable KPI library with growth in data assets

Scalable solution & works with next gen cloud ecosystems

Automated data integrations made difficult due to data silos

Low Collaboration and Productivity | Restricted data consumption

Easily manageable & reusable Business Rules

Absence of Single version of Truth across organization creating low trust on data & decisions | **Subjective Interpretation of Insights leading to inconsistent business actions**

Inconsistent Data Quality

Consistent and repeatable workflows to establish high trust data ecosystem

Users are needed to look at insights at multiple places resulting in low productivity

Inability to see entire brand launch KPI's

Comprehensive solution providing Physician, Field force, Payer and Marketing insights

Data Loss due to poor archival strategies | **Dependency on niche technical developers increasing costs**

Slow turnaround time for deliverables

Ability to ingest, process, validate variety of pharma business sources

Data Driven Actions have low confidence due to poor/siloed data

Inability to customize solution | Lack of Persona driven Views

Easy to consume summary reports addressing needs of various personas

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OVERVIEW OF BRAND LAUNCH SOLUTION FRAMEWORK IMPLEMENTED IN CLIENT ENVIRONMENT

SOLUTION CAPABILITY OVERVIEW

Outcomes

- Brand Performance
- Field Effectiveness
- Market Access Scenarios
- PSP Insights

Solution Features

- Comprehensive solution providing Physician, Field force, Payer and Marketing insights
- Consistent and repeatable workflows to establish high trust data ecosystem
- Business focused data dictionaries to increase data lake adoption
- Easy to consume summary reports addressing needs of various personas
- Ability to ingest, process, validate variety of pharma business sources
- Easily manageable & reusable Business Rules
- Scalable solution & works with next gen cloud ecosystems

Data Platform & Services

Integrate	Monitor	Explore	Actionize
Data Extractors	Monitoring & Orchestration	Self-service data wrangling	Self-Service Insights
Data Catalog	Automated Alerts & Triggers	Function specific data models	Structured & Reusable UI workflows
Data Lineage	Dashboard ready extracts	Data Science @ scale	Analytics Apps
Data Quality Management	Exhaustive KPI library	Augmented Analytics	

External Data Sources >>> Raw Layer — Cloud Storage >>> L1 Layer — Cloud Storage >>> L2 Layer — Cloud Storage & Datawarehouse >>> Reporting Layer — Reports / Dashboards

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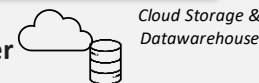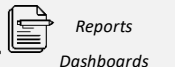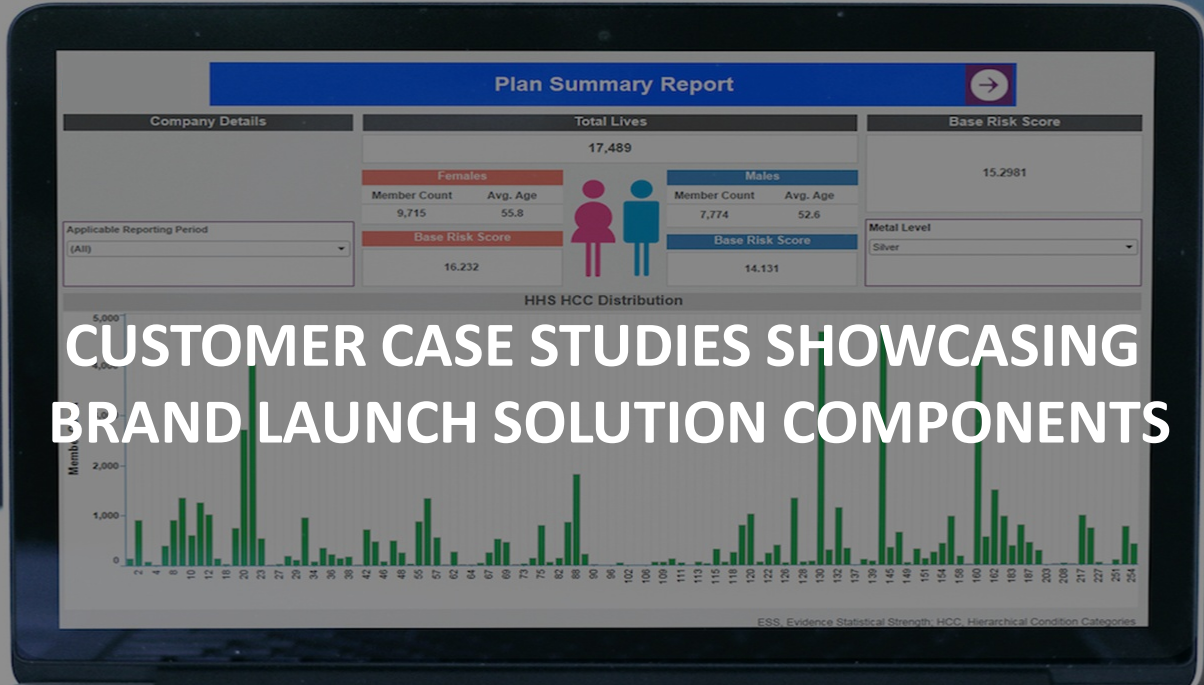
CUSTOMER CASE STUDIES SHOWCASING BRAND LAUNCH SOLUTION COMPONENTS

ENABLING END TO END BRAND LAUNCH ANALYTICS FOR MID-SIZE PHARMA CUSTOMER

DATA INFRASTRUCTURE CHALLENGES

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	Objective	**Solution**	**Outcome**
Create Data Infrastructure	- Provision AWS infrastructure to enable a scalable Data Lake & ensure Data Quality, Catalog, Logging and Monitoring - Enable light weight functional Data marts & Reporting for immediate needs	- AWS component provisioning, core networking, VPN provisioning - Data Analytics Framework to power end-to-end foundation needs - Used our pre-built KPIs & feature libraries	- Enabled a light analytics platform in 8 weeks - Established a reporting ready prepared layer with predefined KPIs - Generated tableau extracts directly & published through our Data Pipelines module
Enable Data Insights	- Enable Data Warehouse environment for Commercial Organization - Enable a Robust Analytics layer that powers various use cases (via Data Warehouse)	- Designed an industry standard pre-built functional architecture - Developed a normalized CDW of all internal and external data that powers business function specific use cases	- Utilized pre-built playbooks for TA specific business functions to accelerate development processes and insight generation across Forecasting, Field force & Marketing analytics, Market access, PLD analytics and Brand reporting - Extended professional services to support any ad-hoc advanced analytics needs
Expand Insights Delivery	- Enable other areas of the Enterprise to use the matured Data ecosystem - Actionize insights to enable businesses to deliver critical insights at the right time to deliver tangible outcomes	Scaled up the existing CDW and developed functional data models that powers enterprise-wide reporting, data science, self-service analytics platforms and applications	- Powered various advanced data science use cases for segmentation, targeting, KoL Mapping, marketing next best action. - Deployed our data aware analytical process flow applications that generated insights 8x to 10x faster than the traditional methods
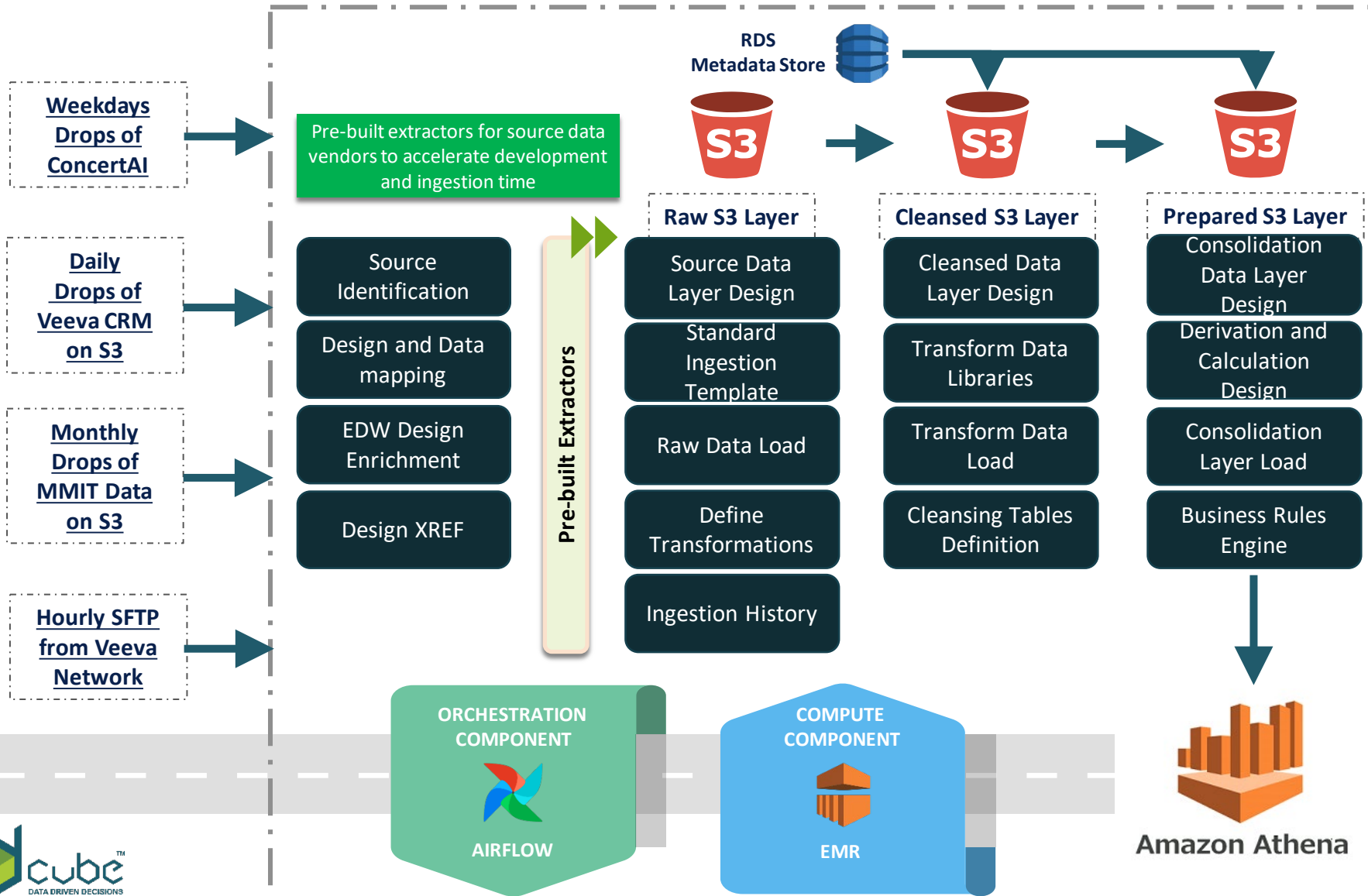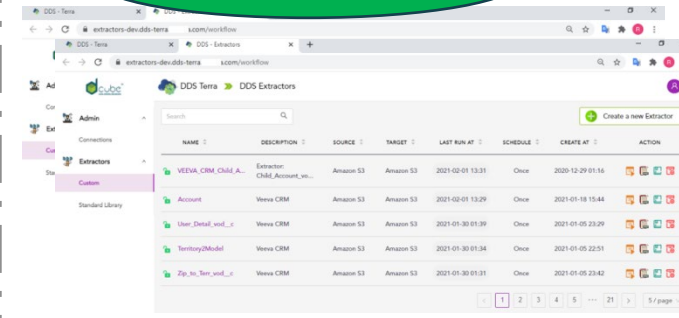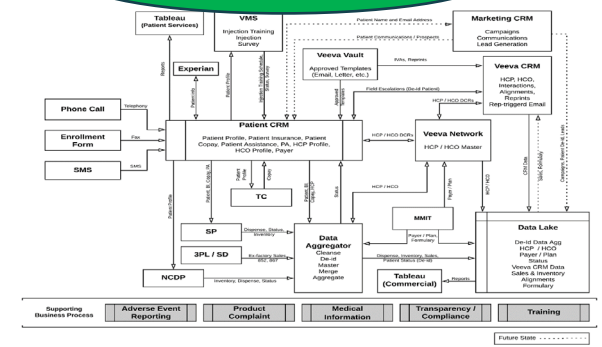
DATA INFRASTRUCTURE DEEP DIVE – DATA INGESTION

SCENARIOS FACED AT THE INGESTION PHASE OF CLIENT DATA LAKE SETUP

- Data file Format variation from vendor to vendor
- High Volume Data files to be ingested and curated to build data assets in L1 and L2 layer
- Real time processing of the data files as they are available in the source system
- Need for effective data quality strategy to be implemented before loading to raw layer
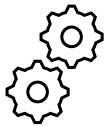
SOLUTION FEATURES ENABLED IN CLIENT LANDSCAPE TO HANDLE THE SCENARIOS

Enabled Extractor module with capability to parse and ingest both structured and semi structured file formats

Data validation strategies like null check , threshold alerts, variance check, and other quality checks were enabled

Enabled optimization techniques like partition on columns like date fields, groups and compression techniques like snappy

Enabled both Scheduled based and Event based processing for data ingestion without causing any delay

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SCENARIOS FACED AT CURATION PHASE OF CLIENT DATA LAKE SETUP

- Need for high volume Data sets to be wrangled and business rules to be configured
- Need for analysts to have capability to slice & dice data on their own
- Ability to reuse any data pipelines built
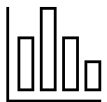- Need for reporting capability while the L2 layer is being built

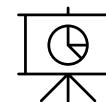## SOLUTION FEATURES ENABLED IN CLIENT LANDSCAPE TO HANDLE THE SCENARIOS
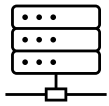
Enabled pipelines module which will push down computation to the cluster to achieve scale as data volume grows
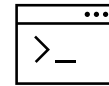
Enabled workflow sharing capability within the project teams to foster collaboration

Enabled a wide range of data transformation and profiling functions for the analysts to choose from

Enable ability to perform ad hoc analytics on L1/L2 layer and export data to tableau server

**SOLUTION FEATURES ENABLED IN CLIENT LANDSCAPE FOR DASHBOARDING AND VISUALIZATIONS**

Overview and summary reports highlighting major points, results, conclusions and recommendations

Building dashboards depicting market performance and trends to help better analyze , align and strategize solutions

Providing visibility to overall quality of data residing in Datalake and highlighting KPIs involved

Enabling better decision making by analyzing markets across payer landscape
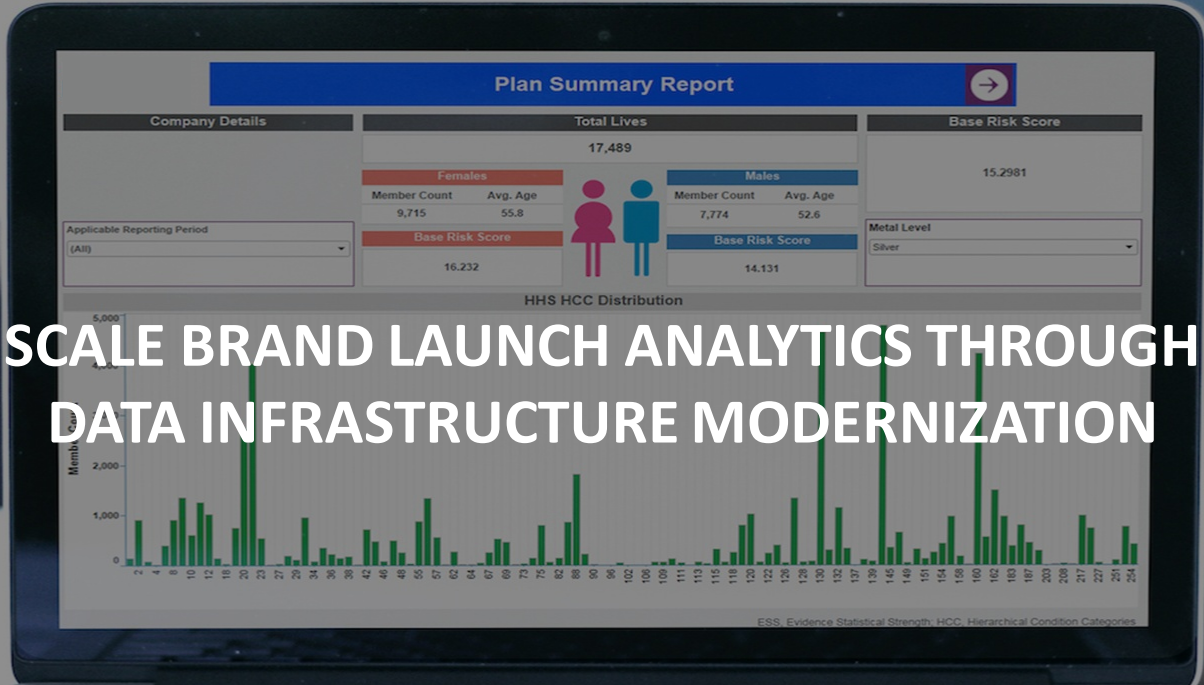
SCALE BRAND LAUNCH ANALYTICS THROUGH DATA INFRASTRUCTURE MODERNIZATION

CASE STUDY 2 (1/3): KEY CHALLENGES FACED BY A SMALL SIZE BIO PHARMA LOOKING TO MODERNIZE ITS DATA PLATFORM FOR BETTER BRAND LAUNCH ANALYTICS

DATA INFRASTRUCTURE CHALLENGES

Scattered Data Availability, Siloed data marts & Restricted data access ✓

Need for "less tech heavy" tools for effective data analysis for data analysts ✓

Inability to provide functional information about the data

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Need for framework driven approach for analytics ✓

INSIGHT DELIVERY CHALLENGES

High Time to Insights ✓

Non standardized processes and inconsistent integration patterns ✓

Delivery of Alerts and actionable insights missing

Single view of Brand Launch metrics to enable collaboration

Inconsistent Integration patterns for downstream leading to poor automation ✓

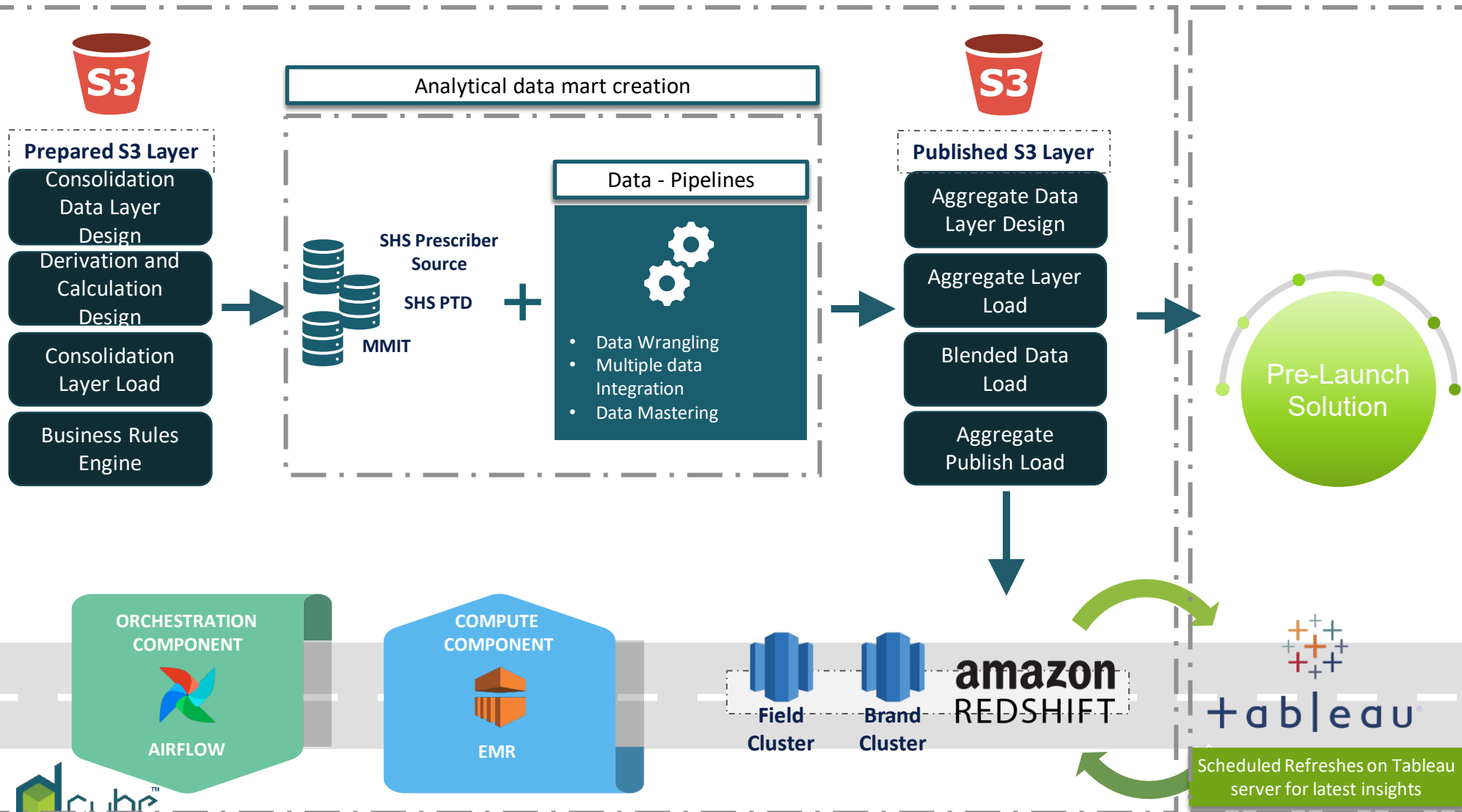|	**Situation**	**Approach**	**Outcome**

Modernize Data Infrastructure	▪ The client had a third-party SAS platform provided by SHS as a part of their contract for subscriptions to PrescriberSource and PTD data	▪ Deployed a CoE to use the SAS platform provided for analytics
		▪ Created function specific data marts to power –
		    ▪ Pre-launch reporting suite
		    ▪ Ad-hoc analytics leveraging multiple data sources to provide 360^0 holistic insights
			▪ Created *one stop shop for pre-launch reporting*
			    ▪ Market Performance and Access
			    ▪ Source of Business, Pricing and Promotional Spend
			▪ Provided launch specific analytics support ranging from *Forecasting, segmentation, targeting and patient level analytics*

Optimize Data Insights	▪ Opting to move away from the SAS platform, the client required a comprehensive data analytics platform to power their pre-launch and launch analytics	▪ Deployed data management platform for end-to-end data management ▪ Implemented a lite analytics platform on AWS for parallel and immediate analytics and reporting	▪ Enabled a lite analytics platform in *4 weeks* ▪ Established an analytics & reporting ready layer with end-to-end automated ingestion, processing and publishing ▪ Accelerated time to insight across *forecasting, Segmentation, Marketing, and Brand reporting*
Advanced Insights Delivery	▪ As the asset neared launch, the matured data ecosystem was implemented across other functional areas and was leveraged as a complete launch analytics platform	▪ Scaled up the existing CDW and developed functional data models that powers enterprise-wide reporting, data science, self-service analytics platforms and applications	▪ Powered various advanced data science use cases for *segmentation, targeting, early adopter identification and KoL Mapping* ▪ Deployed our data aware analytical process flow applications that generated insights 8x to 10x faster than the traditional methods

S3

Analytical data mart creation

S3

Prepared S3 Layer

Consolidation Data Layer Design

Derivation and Calculation Design

Consolidation Layer Load

Business Rules Engine

SHS Prescriber Source

SHS PTD

MMIT

Data - Pipelines

- Data Wrangling
- Multiple data Integration
- Data Mastering

Published S3 Layer

Aggregate Data Layer Design

Aggregate Layer Load

Blended Data Load

Aggregate Publish Load

Pre-Launch Solution

- Leveraging **pre-built playbooks developed for TA specific business functions to accelerate** development processes and insight generation across Field force reporting, Brand reporting and Managed Markets

- The playbooks **allow 60-70% acceleration** owing to use case specific templates. Minimal customization in —
  - KPIs from our exhaustive library or client specific
  - UX, Aesthetics and adherence to product branding

- The playbooks are built to provide **contextual automated insights** to enable quicker consumption of information and lesser time to action

ORCHESTRATION COMPONENT

AIRFLOW

COMPUTE COMPONENT

EMR

Field Cluster

Brand Cluster

amazon REDSHIFT

+tableau

Scheduled Refreshes on Tableau server for latest insights

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Know more about
data infrastructure enablement

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info@dcubeanalytics.com

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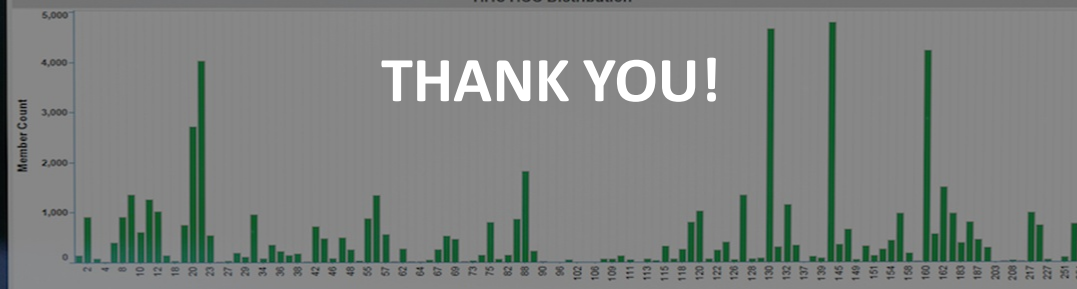
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