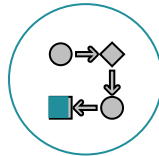


# MARKMAN GROUP

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# PROPOSED PROOF OF CONCEPT



## Metropolitan DealCloud usage optimization

**Goal:** define and implement optimal workflows, introduce effective data governance practices, and ensure DealCloud is utilized to its full potential.

**Objective:** deliver quick wins early in the process, enabling the firm to experience immediate benefits, such as reducing manual effort, improving data accuracy, and supporting users in maintaining high data quality.

### Roles:

**Markman Group** will support the initiative by providing technical expertise and guidance, helping to implement solutions efficiently while assisting with key activities such as data integration, automation, and reporting.

**Metropolitan** team will lead the current DealCloud assessment as well as future process and requirements gathering.



Those quick wins will act as proof of concept for applying similar principles to broader data architecture initiatives in the future

# QUICK WINS - PROOF OF CONCEPT

Markman Group's approach involves two parallel tracks: alongside developing a strong data governance framework we'll be focused on **delivering early, tangible results**. **Based on the Phase 1 analysis (Current State Assessment)**, Markman Group will implement DealCloud **automated quality checks and dashboards**. This will not only reduce manual effort and improve data accuracy but also provide Metropolitan with faster access to improved data insights.

## 2. DATA CLEANSING FOR DEAL DATA

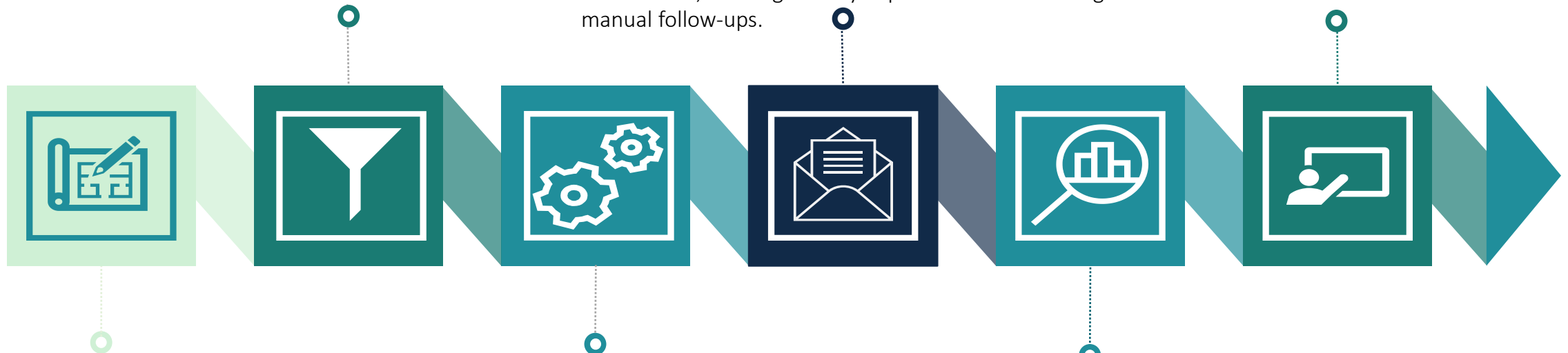
This phase focuses on cleansing data needed for Deal Team's Pipeline and Funnel reports.

## 4. AUTOMATED EMAIL NOTIFICATIONS

The goal of this phase is to create an efficient feedback loop that proactively informs users about data issues, driving timely updates and reducing manual follow-ups.

## 6. TRAINING AND CHANGE MANAGEMENT

This phase ensures users are comfortable with the tools and processes, with continued support available as needed.



## 1. METROPOLITAN DATA ARCHITECTURE TECHNICAL SET UP

The primary objective of this phase is to create a robust data pipeline that enables near real-time data availability.

## 3. DATA QUALITY MONITORING & REPORTING DASHBOARD

This phase aims to provide clear visibility into data hygiene, enabling proactive management and timely resolution of data issues.

## 5. AUTOMATION OF PIPELINE AND FUNNEL REPORTS

The phase aims to automate creation and maintenance of Pipeline and Funnel reports using PowerBI.

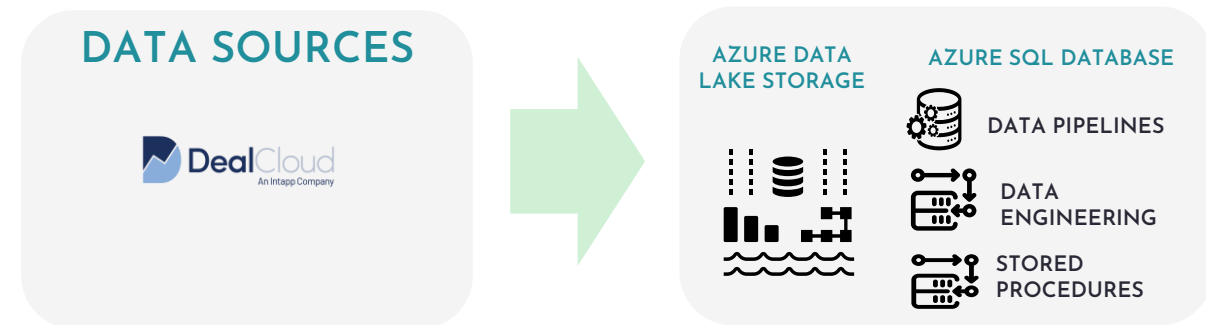
# PROJECT DETAILS

## 1. METROPOLITAN DATA ARCHITECTURE TECHNICAL SET UP

During this phase Markman Group will establish the technical foundation in alignment with the proposed data architecture. By focusing initially on DealCloud, we reduce complexity while **setting up a scalable framework that can be expanded in the future** not only to ingest all DealCloud data, but other systems too.

	TASK	OUTPUT
1	Define Technical Requirements	Technical Requirements Document (API integration, data flow, reporting needs)
2	Design Data Architecture (PoC)	Architecture Blueprint (API → Data Lake → SQL Database)
3	API Integration Setup	Established API Connection to DealCloud (automated data extraction process)
4	Data Ingestion into Azure Data Lake	Automated Data Ingestion Pipeline (structured raw data from DealCloud)
5	Set Up Azure SQL Database	Configured SQL Database Environment (ready for curated data storage)
6	Configure Data Integration Orchestration (ADF)	Automated Data Flow Setup (schedule data pulls and manage workflows)
7	Technical Testing & Validation	Verified Data Flow, API Connection, and Storage Integrity

(\*) We believe a data lake POC would be beneficial in showcasing the solution's capabilities. However, if deemed unnecessary at this stage, we can proceed without it through automated extractions.



The primary objective of this phase is to create a robust data pipeline that enables near **real-time data availability**. To achieve this, we will implement APIs for seamless data integration between DealCloud and the Azure data environment. Initially, we will focus on ingestion of the data needed for Deal Team's Pipeline and Funnel reports

This technical setup ensures data can flow efficiently from DealCloud into the centralized architecture, supporting advanced reporting, analytics, and automation while laying the groundwork for future data initiatives.

# PROJECT DETAILS

## 2. DATA CLEANISNG FOR DEAL DATA

During this phase Markman Group will lead the cleansing of data needed for Deal Team's Pipeline and Funnel reports.

The initial phase of the project will focus on establishing rules for data cleansing. Once this is done Markman Group will collaborate with the Deal Team to define and implement data quality enhancement rules

	TASK	OUTPUT
1	Identify initial cleansing rules.	List of initial cleansing rules.
2	Collaborate with the Deal Team to define and implement data quality enhancement rules.	List of agreed-upon business rules for handling inconsistencies, duplicates, missing data, etc.
3	Data cleansing	"Deal Cloud Data Directory"

The primary deliverable of this phase will be a comprehensive "**Deal Cloud Data Directory**" report. This document will provide a structured overview of key data elements, including the system of origin, field names, definitions, applied rules, and responsible teams for each data point.

## 3. DATA QUALITY MONITORING & REPORTING DASHBOARD

Markman Group will develop a solution to monitor and improve the quality of data within DealCloud.

We will design and implement a Power BI dashboard that visualizes key data quality metrics. By defining critical KPIs and incorporating drill-down features, the dashboard will allow users to identify data gaps and track progress over time.

	TASK	OUTPUT
1	Design Power BI dashboard to visualize data quality metrics	Dashboard Wireframes and Design Specifications
2	Connect Power BI to Azure SQL Database for real-time monitoring	Established Data Connection for Live Data Feeds
3	Define dashboard KPIs (e.g., missing data fields, outdated records)	Documented List of Data Quality KPIs
4	Develop Deal Cloud data quality report with drill-down features	Interactive Power BI Report with Drill-Down Capabilities

\* To ensure quick delivery and immediate value, the dashboard development will not be dependent on the Azure SQL Database setup. We will initially build the solution using direct data exports from DealCloud, following an agile approach to deliver early results. Once the Azure environment is fully established, the data connection will seamlessly switch to the SQL Database

# PROJECT DETAILS

## 4. AUTOMATED EMAIL NOTIFICATIONS

Markman Group will design and implement an automated notification system to enhance data quality maintenance within DealCloud.

We will develop workflows that automatically identify data quality issues, such as missing fields, outdated information, or inconsistent entries. The system will send personalized email notifications to each responsible user, consolidating all required updates into a single, easy-to-navigate message.

	TASK	OUTPUT
1	Design workflows to identify data quality issues automatically.	Workflow Design Documents
2	Set up automated email notifications for data owners with pending data issues.	Automated Notification System for Data Quality Alerts
3	Schedule regular scheduled jobs for continuous monitoring.	Scheduled Jobs for Automated Data Quality Checks
4	Test automation workflows to ensure timely and accurate notifications	Test Results and Adjusted Workflows

This phase will significantly improve the data cleansing process, reduce manual effort, and help maintain high data quality standards, ensuring that users receive clear, actionable tasks tailored to their responsibilities.

## 5. AUTOMATION OF PIPELINE AND FUNNEL REPORTS

The automation of these reports using Power BI aims to improve efficiency, accuracy, and accessibility while reducing the time spent on report generation.

This automation will enhance data accuracy by reducing human errors, ensuring that stakeholders always have access to the latest insights. Interactive dashboards will replace static reports, allowing users to drill down into key metrics and analyze trends.

	TASK	OUTPUT
1	PowerBI Architecture Technical Set Up	Establish PowerBI environment/Ensure the existing environment is ready to be used.
2	Planning Phase	Business requirements Establish Access levels and user roles
3	Automation of data extraction and transformation	Data used for reports Will be the one that has been cleansed as part of step 2
4	Dashboard Design & Prototyping	Initial mock-up Prototype with basic visualization elements
5	Development & Implementation	Interactive Power BI Dashboards with real-time data integration
6	Deployment & Training	Training sessions and user guides for business users

*Dashboard Design and Prototyping is dependent on PowerBI Architecture Technical Set. Once the infrastructure is ready, the dashboard design can kick off.*

# PROJECT DETAILS

## 6. TRAINING & CHANGE MANAGEMENT

Markman Group will provide targeted training to help users effectively work with the new data quality dashboard, automated email notifications, Pipeline and Funnel dashboards

	TASK	OUTPUT
1	Develop user training materials for new workflows and dashboards	Training Manuals & Guides
2	Conduct training sessions for DealCloud and reports users	Training Sessions
3	Provide documentation for API workflows and dashboard usage	Technical Documentation for APIs, Dashboards, and Processes
4	Post-implementation support	Defined Support Channels

Markman Group will also deliver technical documentation for all implemented processes to support ongoing use. This phase ensures users are comfortable with the tools and processes, with continued support available as needed.

**Training Scope:** Markman Group will develop training materials related to developments and deliverables performed. Metropolitan will handle DealCloud process training.



# PROJECT WIDE ACTIVITIES

In parallel, with a broader timeline, there are some activities such as the implementation of governance structures and policies to establish a consistent and standardized usage of DealCloud that need to happen to lay the foundation for long term data management. **While Markman Group will provide consultation on some of these, the POC work will be instrumental in enabling and accelerating their completion.**

## Governance Framework

	TASK	OUTPUT	Markman	MET
1	Identify DealCloud Data Fields & Structure	Detailed Data Inventory (fields, data types, usage)	Consulted	Responsible
2	Identify Data Ownership & Responsibilities	Data Ownership Matrix (RACI)	Consulted	Responsible
3	Define Roles & Responsibilities (RACI)	RACI Matrix (Data Owners, Data Stewards, DealCloud Support Team)	Consulted	Responsible
4	Establish Data Governance Framework	Data Governance Policy Document (roles, data stewardship processes)	Responsible	Accountable
5	Develop Data Quality Management Process	Data Quality Framework (checks, issue resolution process)	Responsible	Responsible
6	Define Reporting & Dashboard Strategy	Reporting Framework (standard reports, dashboards, KPIs to track)	Accountable	Responsible

*\*Metropolitan is responsible for aligning and designing process and Markman Group is responsible for developing the compliance check and rules.*

## Deal Cloud Customization (Upon Demand)

The DealCloud Customization phase focuses on implementing system changes to align the platform with the firm's defined workflows, data requirements, and business processes.

- 1 **Markman Group** would be responsible of analyzing current integration points and delivering integration map (efforts started during assessment phase)
- 2 **Metropolitan** would be responsible of designing optimized workflows for each team. Standardize fields and structures and onboarding teams to DealCloud. Once Deal Cloud customizes the system Metropolitan would be responsible of testing and leading training efforts.
- 3 **DealCloud** would be responsible of configuring fields & structures in system. Customizing workflows and implementing role-based access controls

*\*Additional detail in the Annex*

*\*\* Consultancy hours have not been included in all activities because we understand that will be managed by Metropolitan, however if required additional hours can be budgeted and included for this purpose.*

This phase will be executed in parallel with governance efforts, ensuring a structured yet flexible approach to improving DealCloud's usability and effectiveness.



# MAIN DELIVERABLES & BENEFITS

## Quick Wins Main Deliverables



### METADATA ARCHITECTURE TECHNICAL SET UP

- Infrastructure Setup with API connection and automated data flows
- Architecture Blueprint



### DATA CLEANSING FOR DEAL DATA

- Deal Cloud Data Directory



### DATA QUALITY MONITORING & REPORTING DASHBOARD

- List of Data Quality KPIs
- Interactive PowerBI Data Quality Report with Drill-Down capabilities



### AUTOMATED EMAIL NOTIFICATIONS

- Workflow Design documents
- Automated emails for data quality alerts



### AUTOMATION OF PIPELINE AND FUNNEL REPORTS

- Automated Pipeline Dashboard
- Automated Funnel Dashboard



### TRAINING AND CHANGE MANAGEMENT

- Training Manuals & Guides
- Training Sessions

## Benefits



# TIMELINES

	ACTIVITIES	WEEKS											
		WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12
Metropolitan DealCloud usage optimization project	DealCloud Governance												
	Governance Framework *	Define DealCloud data fields, structure, ownership, responsibilities, and RACI *					Data Governance Framework and develop data quality management process				Define Reporting & Dashbaording Strategy		
	Deal Cloud Customization	Based on MET and DealCloud timelines											
	Quick Wins												
	Metropolitan Data Architecture Technical Setup (optional)	TECHNICAL SETUP											
	Data Cleansing for deal data												
	Data Quality monitoring & Reporting Dashboard **												
	Automated email notifications												
	Automation of Pipeline and Funnel Reports												
	Training & Change Management												

\*The project timeline is primarily driven by Markman Group's tasks. However, activities dependent on Metropolitan or DealCloud could impact on the overall project duration. DealCloud customization falls under the responsibility of Metropolitan and DealCloud, and they should determine the effort required.

\*\*We will have some early quick wins in the process but Data Governance process running in parallel will keep retro feeding quick wins outputs and retro feeding them 

# PRICING



## PRICING

Phases	Role	Hours	Rate	Total
Deal Cloud Governance	Business Analyst Lead	80	\$ 225 / hr	\$ 18,000
Quick Wins				
Metropolitan Data Architecture Technical Setup	Data Engineer	100*	\$200/hr	\$20,000
Data Cleansing for Deal Data	Automation Developer	50	\$180/hr	\$9,000
Data Quality monitoring & Reporting Dashboard	Automation Developer	60	\$180/hr	\$10,800
	PowerBI Developer	60		\$10,800
Automated email notifications	Automation Developer	60	\$180/hr	\$7,200
Automation of Pipeline and Funnel Reports	PowerBI Developer	160	\$180/hr	\$28,800
Training & Change Management	Business Analyst	40	\$150/hr	\$6,000
Overall	Project Manager	48	\$200/hr	\$9,600
	<b>Total</b>	<b>658 hours</b>		<b>\$120,200</b>

*\* Sample Pricing. Actual rates may vary on projects specifics. For example, if instead of doing POC architecture simpler architecture is selected the number of hours on Data Engineer will be reduced accordingly.*

## SCOPE ASSUMPTIONS

- It is assumed that the data collection activities have been progressed already by Metropolitan, thereby reducing the timeline required for data governance activities.
- Markman Group will develop training materials related to developments performed. Metropolitan will handle DealCloud process training.
- The Quality dashboard will visualize data quality workflows and metrics identified during 'Data cleansing' phase, using only data from DealCloud.
- In Governance, for those activities where Markman Group acts in a consultative role, we'll provide guidance on necessary information and formats, but not leading sessions. Session attendance can be included for an additional fee.
- Metropolitan will host the solution on their infrastructure and cover associated costs (e.g., PowerBI licenses). Solution maintenance is excluded from the scope.

# ANNEX

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# PROJECT WIDE ACTIVITIES

## Deal Cloud Customization - Details

TASK	OUTPUT	Markman	MET	DealCloud Support
Analyze Current Integration Points	Integration Map (API connections, manual data flows)	Responsible	Accountable	-
Define Target Operating Model for DealCloud Usage	Target Operating Model Document (how each team should use DealCloud)	Consulted	Responsible	-
Design Optimized Workflows for Each Team	Workflow Diagrams (Deal Team, IR, Asset Management, etc.)	Consulted	Responsible	-
Standardize Data Fields & Structures	Data Field Dictionary (standardized fields, formats, mandatory fields)	Consulted	Responsible	-
Onboard teams to DealCloud	Teams Onboarding Plan	Consulted	Responsible	-
Configure Data Fields & Structures	Updated DealCloud Data Model (new fields, modified field types, standardized formats)	Informed	Accountable	Responsible
Customize Workflows & Automations	Configured Workflows (stage-specific workflows, task automation within DealCloud)	Informed	Accountable	Responsible
Implement Role-Based Access Controls	Updated Access Permissions (aligned with the data governance framework)	Informed	Responsible	Responsible
Testing & User Acceptance	UAT Test Plans & Results (ensures changes meet business needs and workflows function correctly)	Informed	Responsible	Accountable
Documentation of Changes	System Configuration Documentation (details of all customizations for future reference)	Informed	Accountable	Responsible
User Training on New Features	Training Materials & Sessions (focused on new workflows, fields, and dashboards)	Informed	Responsible	Consulted

# PROPOSED PROOF OF CONCEPT (2)



## Visualization of PIPE via PowerBI

**Goal:** reduction in manual data extraction efforts, increased user engagement with dashboards as well as improved decision-making based on real-time insights.

**Objective:** design and implement a dashboard visualizing PIPE information that allows business users to extract and analyze data from PIPE efficiently, improving decision-making and operational insights.

**Roles:**

**Markman Group** will be responsible for driving the business requirements gathering sessions as well as building the dashboard.

**Metropolitan** team will be responsible for communicating the requirements in due time as well as testing and validating dashboard output.



Those quick wins will act as proof of concept for applying similar principles to broader data architecture initiatives in the future

# QUICK WINS AND PROOF OF CONCEPT (2)

Markman Group's approach involves two parallel tracks: Alongside developing a strong data governance framework, delivering early, tangible results. Based on the Phase 1 analysis, they will implement automated quality checks and dashboards. This will not only reduce manual effort and improve data accuracy but also provide Metropolitan with faster access to improved data insights.

## 2. PLANNING PHASE

The main goal of this phase defining the business requirements and engaging stakeholders to understand dashboard needs.

## 4. DEVELOPMENT AND IMPLEMENTATION

This phase focus is on developing an interactive dashboard with real-time data integration, as well as conducting user testing and refining the dashboard based on feedback.

## 6. SUCCESS METRICS

This phase ensures the success of the dashboard - reduction in manual data extraction efforts as well as increased user engagement with dashboards.



## 1. POWERBI ARCHITECTURE TECHNICAL SET UP

This phase focuses on ensuring that the existing environment is ready to be used.







## 3. DASHBOARD DESIGN AND PROTOTYPING

This phase focuses on creating an initial mock-up leveraging the existing PIPE data model and conducting stakeholder review and gather feedback.

## 5. DEPLOYMENT AND TRAINING

The phase aims to deploy dashboards to production environment and provide training sessions and user guides for business users.

# TIMELINES - PROOF OF CONCEPT (2)

ACTIVITIES	WEEKS				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5
PowerBI Architecture Technical Setup*					
Planning Phase					
Dashboard Design and Prototyping					
Development & Implementation					
Deployment & Training					
Success Metrics					

\* Dashboard Design and Prototyping is dependent on PowerBI Architecture Technical Set. Once the infrastructure is ready, the dashboard design can kick off.



# PRICING - PROOF OF CONCEPT (2)



## PRICING

Phases	Markman Group Team	Estimated Hours	Pricing	TOTAL
PowerBI Architecture Technical Setup *	Infrastructure Lead	2,5	\$210/hr	\$525
	PowerBI Developer	2,5	\$180/hr	\$450
Planning Phase	PowerBI Developer	10	\$180/hr	\$1,800
Dashboard Design and Prototyping	PowerBI Developer	25	\$180/hr	\$4,500
Development & Implementation	PowerBI Developer	25	\$180/hr	\$4,500
Deployment & Training	PowerBI Developer	10	\$180/hr	\$1,800
Success Metrics	PowerBI Developer	5	\$180/hr	\$900
Overall	Project Manager	10	\$200/hr	\$2,000
TOTAL		90 hours		\$16,475

*\* Estimations are based on assumption that Metropolitan has PowerBI already set up and the connection with PIPE is established. If that's not the case, we'll need to revisit estimations based on the situation.*

## SCOPE ASSUMPTIONS

- Dashboard contains only PIPE data and does not include any modifications to the PIPE data model.
- All measures/KPIs that will be used are already incorporated into the PIPE data model.
- The dashboard will include a limited number of tabs (3-5) containing tables that will allow the end users to extract the data in excel.
- Each tab will also contain slicers, so that the end users can filter the data before extracting it.
- Security limitations (row or object level) currently are considered out of scope.