# Forecasting Engagement Checklist & Questionnaire

## Pre-requisites for Deployment and start of engagement.

The process of creation of Azure assets for forecasting framework can be done through the instructions in Infrastructure\_Deployment.doc and a call between:

1. Microsoft /Microsoft partner team and

2. Any one user on the customer side having Owner/Admin access on Subscription

It usually takes around three hours for the entire deployment of infrastructure.

Below are the pre-requisites for deployment:

1. Azure subscription
2. Service Principal with Owner/Admin access on Azure subscription – This is preferred however the least possible is Contributor access on the Azure resource group and quota request operator access to subscription (This will mean added steps for the customer to create the roles required for the framework)
3. ObjectId of users (Not mandatory - for automated creation of compute instances of Azure ML)
4. Power BI subscription (for the PowerBI reports where needed)

## Subscription Access and Azure Resources

IF you need Microsoft to supervise/help in the process on your environment directly, accesses needed for Microsoft are listed below.

Kindly initiate the process of background check (or any equivalent process) for the same. Below, we list the access level and the typical resources needed for the engagement.

1. **Roles and Access –**

|  |  |  |
| --- | --- | --- |
| **Role** | **Access** | **Need** |
| Microsoft PoC | Admin | To create azure resources |
| Other Contributors | Contributor | To use azure resources |

1. **Azure Resources –** The pipelines can be used to set up Azure resources for the engagement – Please refer to Infrastructure\_deployment.doc for the same.A typical engagement will involve the following resources:

|  |  |  |
| --- | --- | --- |
| **Engagement Type** | **Azure Resource** | **Need** |
| PoC | AzureML (with compute, and other linked services) | Clean and preprocess data |
| Train models |
| GoLive (Shadow mode and Production) | ACR and AKS | Deploy models |
| AzureML | Monitoring and logging scripts |
| Event Grid | Trigger event handlers from registered topics |

## Forecasting entities of interest

The data to be used for forecasting can be discussed in detail but entities of interest are as below:

*Example:*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Entity** | **Details (Name, Location)** | **Historical Data Size** | **Data Granularities** | **Forecasts At** | **Granularity required and Lookaheads** |
| Solar | EW Brown,  37.78°N 84.71°W | 1/1/2015 to  31/12/2020 | Single power values for whole farm at 1 minute | Every 4 hours starting at midnight | 15 minutes for 4 hours ahead |
| Every 24 hours starting at midnight | 1 hour for 12-36 hours ahead |
| Price | MISO DAM | 1/1/2013 to 31/12/2021 | LMP from 20 nodes at 15 minutes | Every 24 hours starting by noon | 15 minutes for 12-36 hours ahead |

*(Add rows, if required)*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Entity** | **Details (Name, Location)** | **Historical Data Size** | **Data Granularities** | **Forecasts At** | **Granularity required and Lookaheads** |
| Solar |  |  |  |  |  |
| Wind |  |  |  |  |  |
| Price |  |  |  |  |  |
| Demand |  |  |  |  |  |
| Misc. |  |  |  |  |  |

## Exogenous variables for building models

*Example:*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variable** | **Source** | **Historical Data Size** | **Data Granularity** | **Available At** | **Missing Values** |
| IoT Data | Azure IoTHub | 1/1/2013 to 31/12/2021 | At 1 minute from every turbine | Delayed by 5 minutes | March 2020 whole month |
| Weather | SolCast API | 1/1/2013 to 31/12/2021 | 1 hour from API | Real-time | No Gaps |
| Commodity prices | Blob data dump | 1/1/2013 to 31/12/2021 | Open, Average, Close value per day | Daily end of day on business days | No Gaps |

*(Add rows, if required)*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variable** | **Source** | **Historical Data Size** | **Data Granularity** | **Available At** | **Missing Values** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

## Milestones

To be discussed as per customer requirements

## Baselines

To be discussed as per customer requirements

## Success metrics

To be discussed as per customer requirements