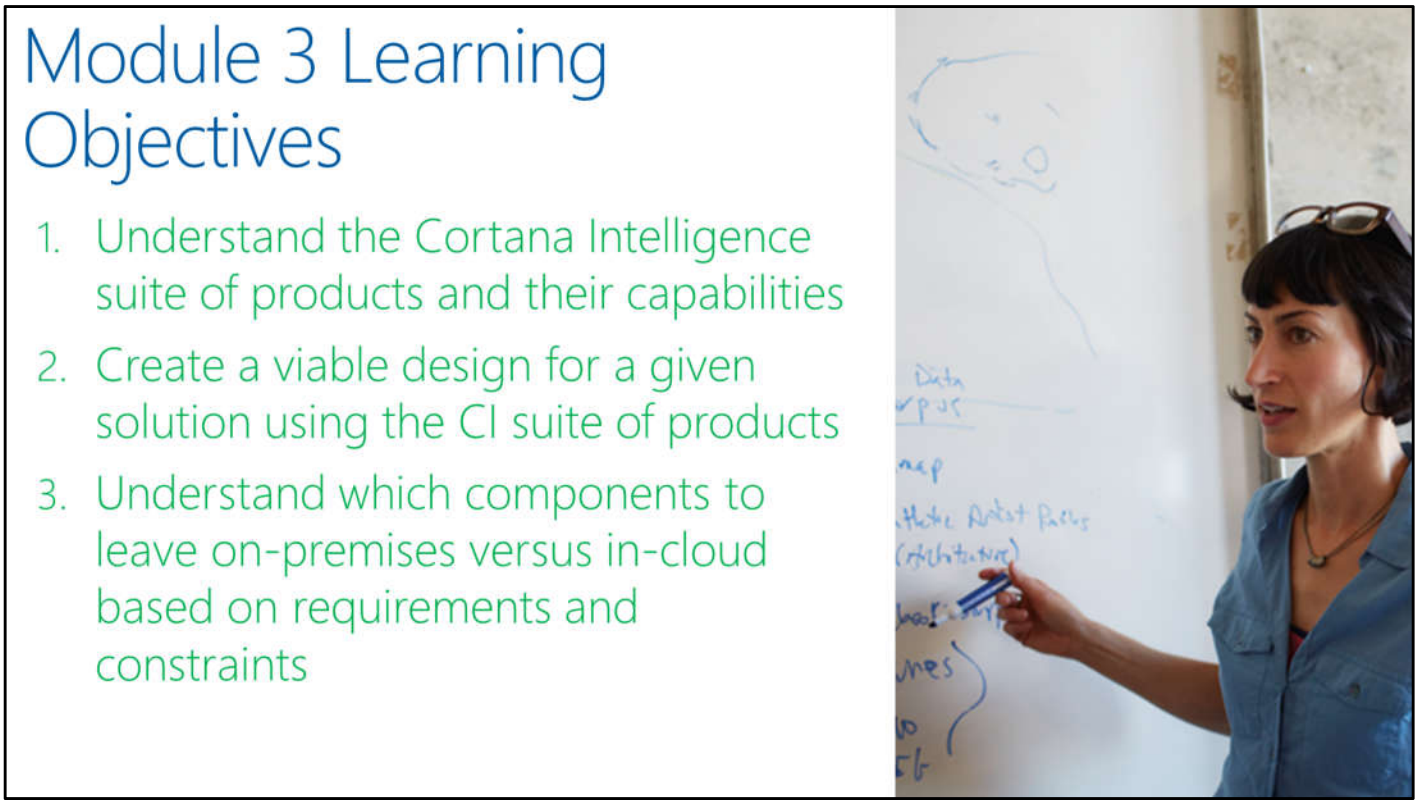
1. Main page: http://cortanaanalytics.com
2. Pre-Requisites:
    1. General Azure Awareness
    2. Ability to instantiate IaaS VM's
    3. Ability to create Azure Data stores, basic ingress and egress of data
    4. Ability to deploy Azure Web Site
    5. Ability to deploy Azure Web Application
    6. Ability to access and use an Azure Service, such as HDInsight or Azure ML

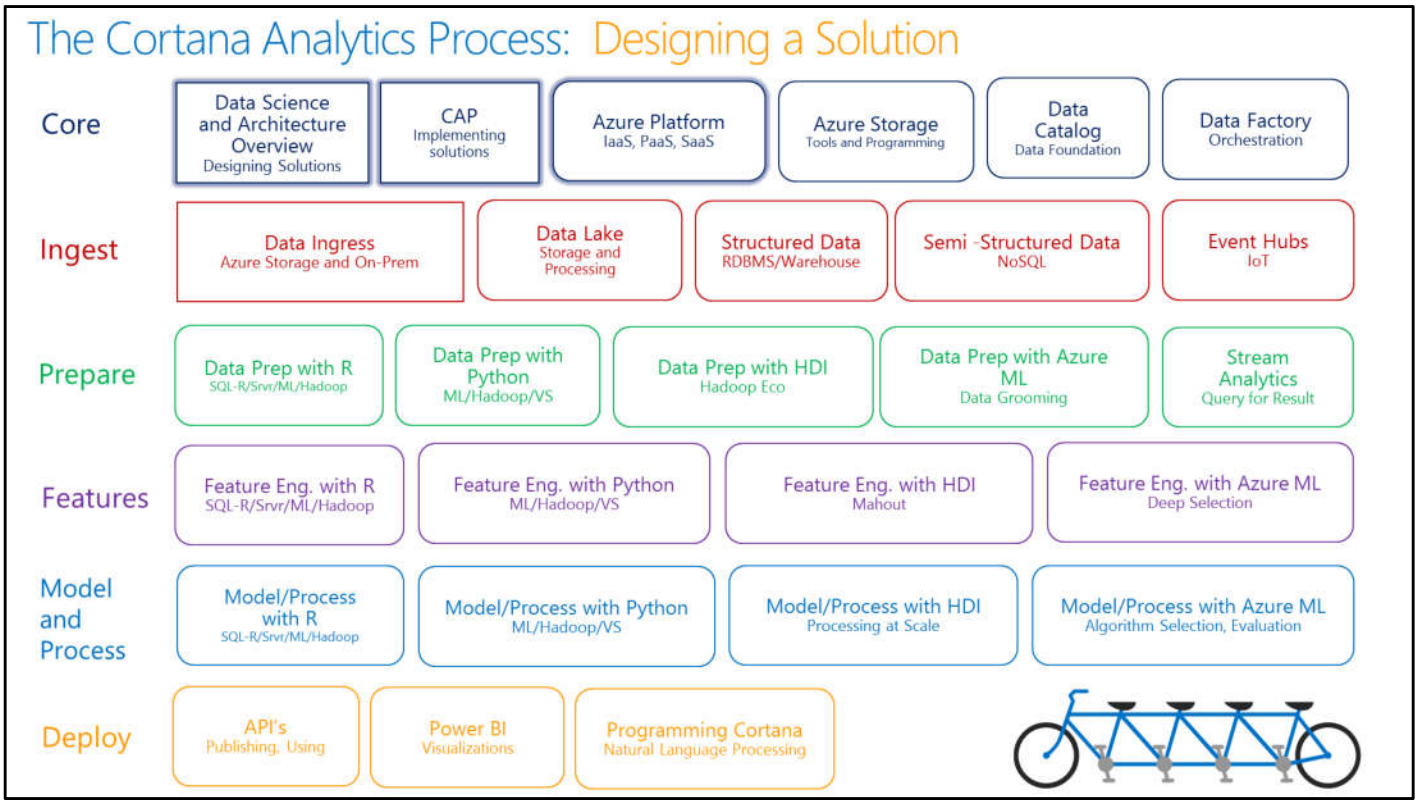


When you are done with this Module, you will be able to:

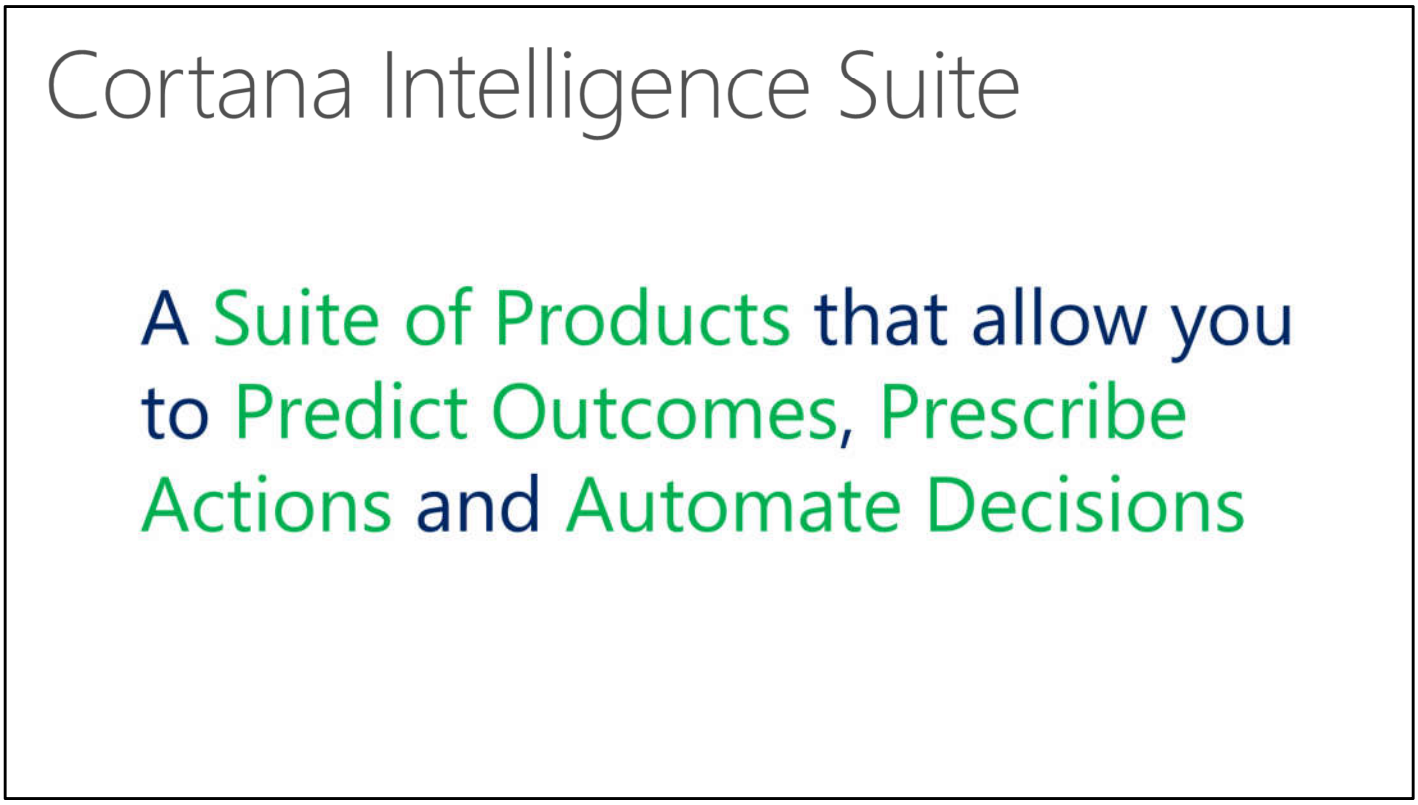
1. Understand the Cortana Intelligence suite of products and their capabilities

2. Create a viable design for a given solution using the CI suite of products

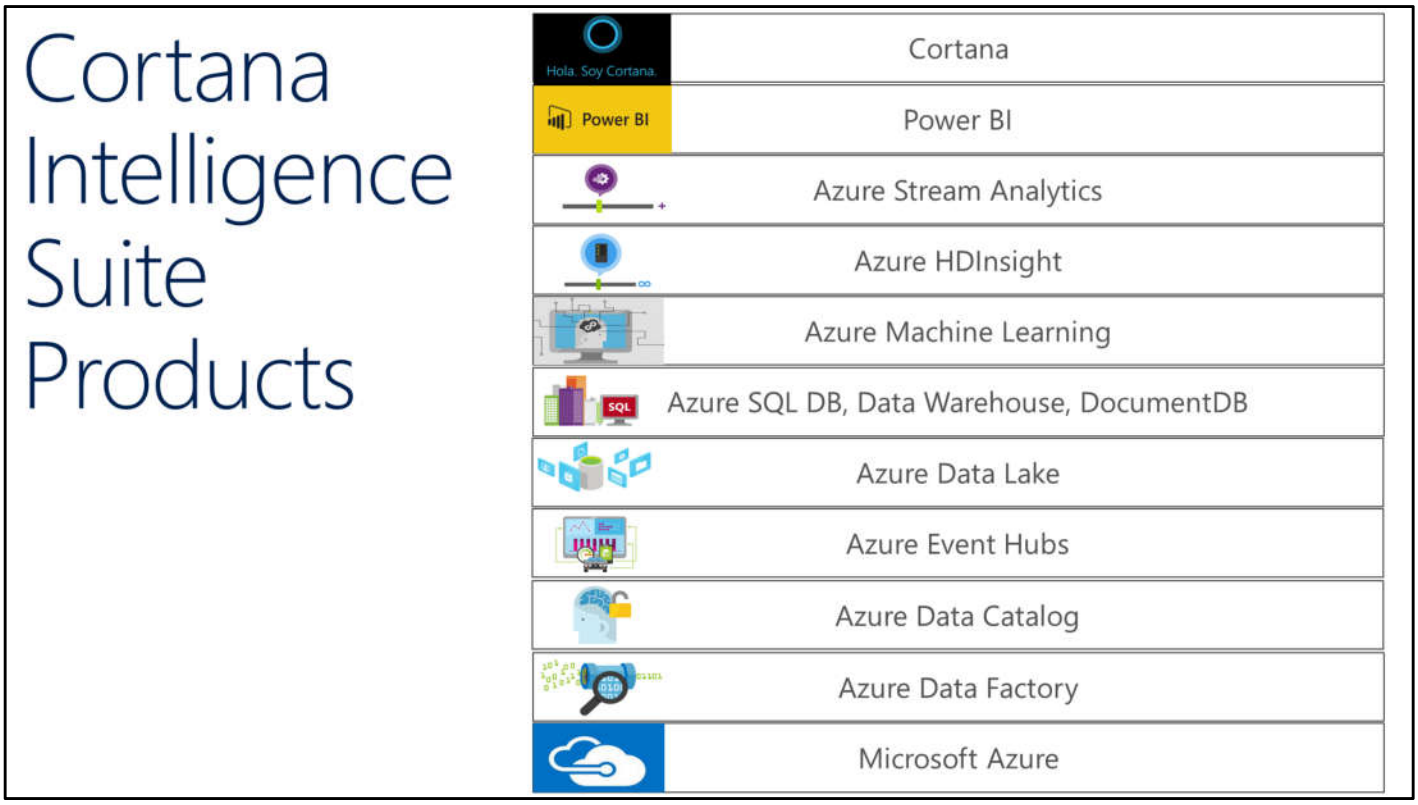
3. Understand which components to leave on-premises versus in-cloud based on requirements and constraints



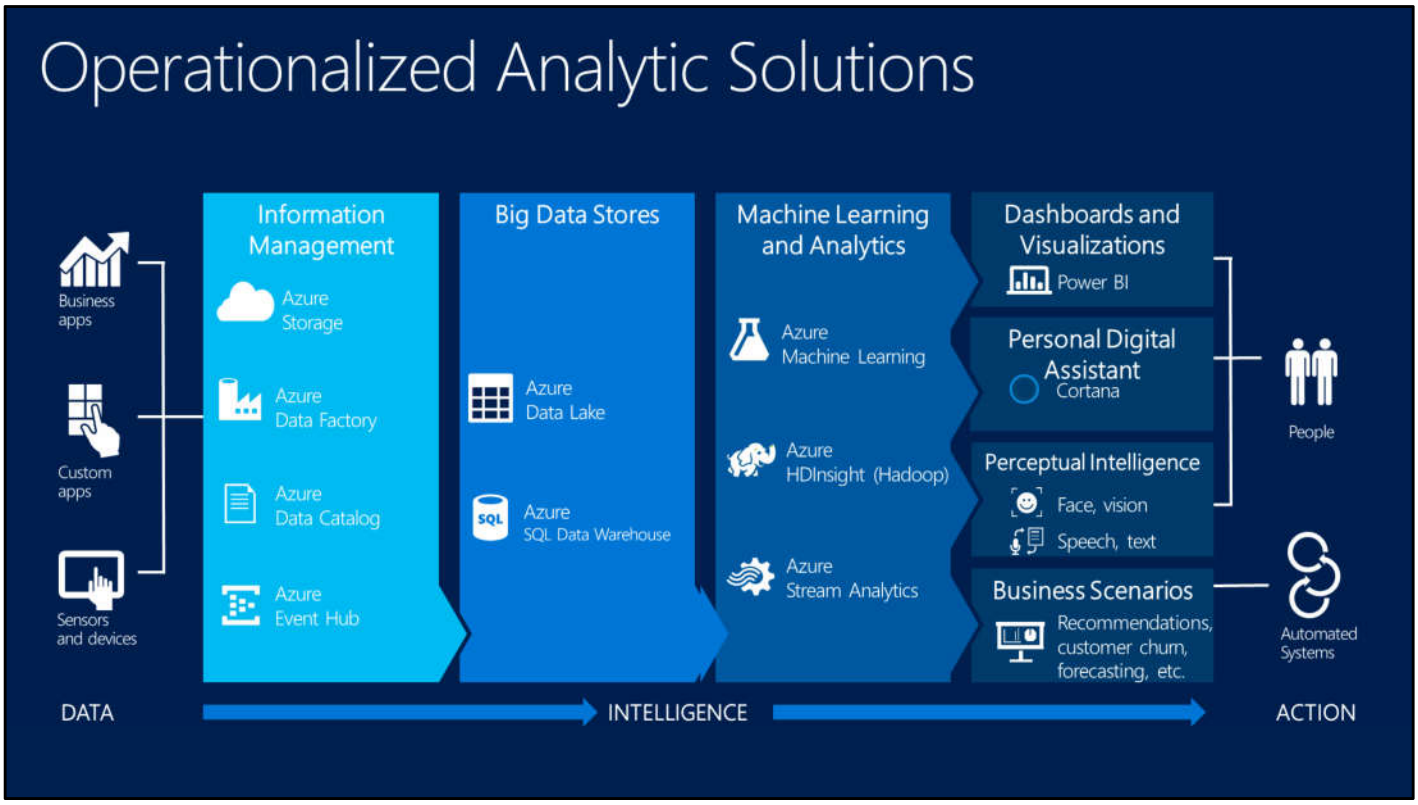
1. The Cortana Analytics Process: https://azure.microsoft.com/en-us/documentation/learning-paths/cortana-analytics-process/
2. Microsoft Azure main page: http://microsoftazure.com
3. Cortana Analytics: http://cortanaanalytics.com



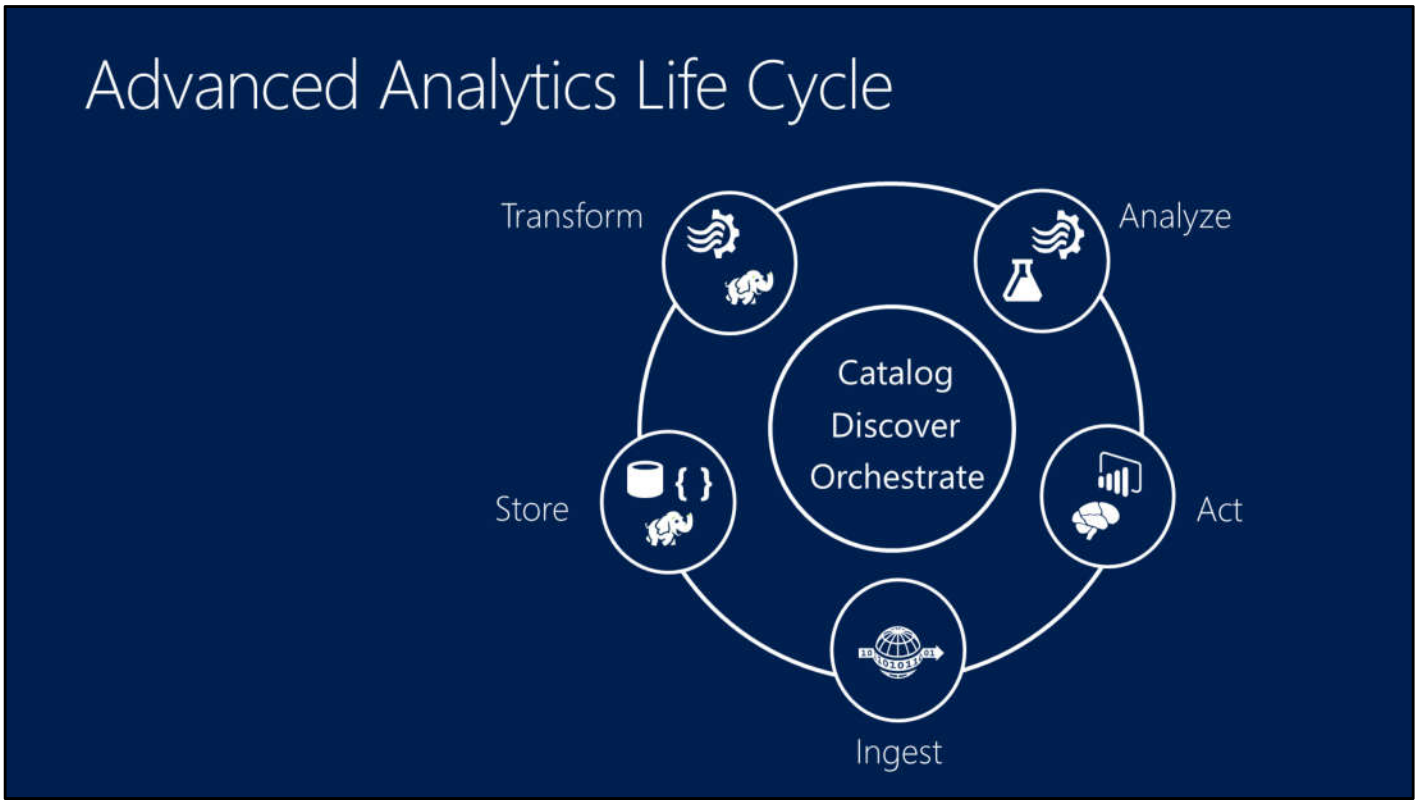
1. Main page: http://cortanaanalytics.com



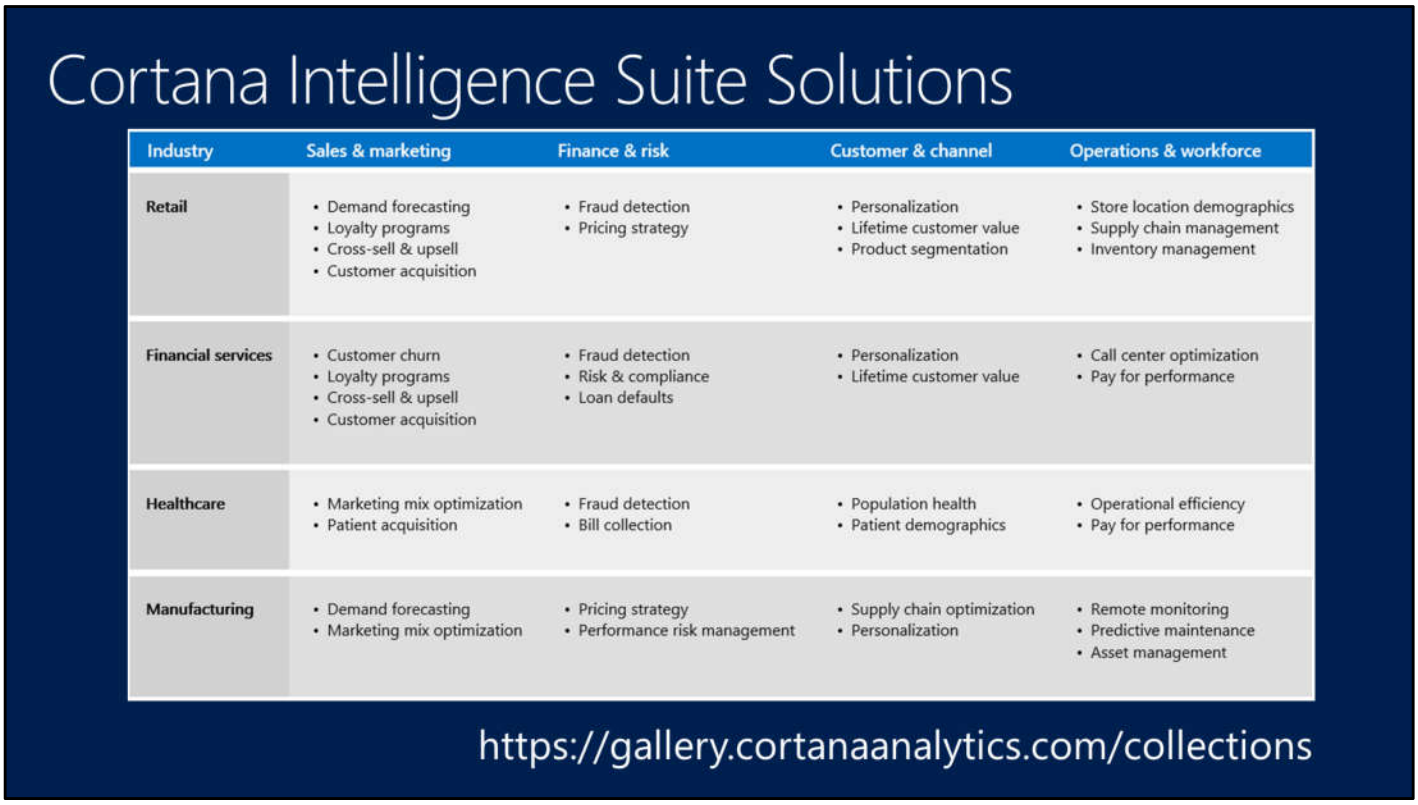
1. Platform and Storage: Microsoft Azure – http://microsoftazure.com Storage: https://azure.microsoft.com/en-us/documentation/services/storage/ (Host It)
2. Azure Data Factory: http://azure.microsoft.com/en-us/services/data-factory/ (Move It)
3. Azure Data Catalog: http://azure.microsoft.com/en-us/services/data-catalog (Doc It)
4. Azure Event Hubs: http://azure.microsoft.com/en-us/services/event-hubs/ (Bring It)
5. Azure Data Lake: http://azure.microsoft.com/en-us/campaigns/data-lake/ (Store It)
6. Azure DocumentDB: https://azure.microsoft.com/en-us/services/documentdb/?WT.srch=1&WT.mc_ID=SEM_JQ3fO8dU , Azure SQL Data Warehouse: http://azure.microsoft.com/en-us/services/sql-data-warehouse/ (Relate It)
7. Azure Machine Learning: http://azure.microsoft.com/en-us/services/machine-learning/ (Learn It)
8. Azure HDInsight: http://azure.microsoft.com/en-us/services/hdinsight/ (Big It)
9. Azure Stream Analytics: http://azure.microsoft.com/en-us/services/stream-analytics/ (Stream It)
10. Power BI: https://powerbi.microsoft.com/ (See It)
11. Cortana: http://blogs.windows.com/buildingapps/2014/09/23/cortana-integration-and-speech-recognition-new-code-samples/ and https://blogs.windows.com/buildingapps/2015/08/25/using-cortana-to-interact-with-your-customers-10-by-10/ (Say It)



1. Full Learning Path: https://azure.microsoft.com/en-us/documentation/learning-paths/cortana-analytics-process/
2. A full video of this being implemented is here: https://channel9.msdn.com/Events/Cortana-Analytics-Suite/CA-Suite-Workshop-10-11SEP15/Using-the-Cortana-Analytics-Process



1. http://azure.microsoft.com/en-us/documentation/learning-paths/machine-learning-self-guided-predictive-analytics-training/

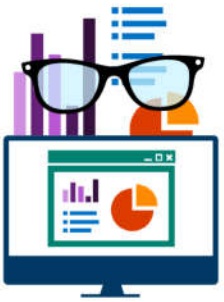


1. Real-time recommendation: https://gallery.azureml.net/MachineLearningAPI/3574432384684cac9cc766e57729ea4c
2. Customer churn forecasting: https://gallery.azureml.net/MachineLearningAPI/7d86b89faf2e4cbcabb84a02179da99e
3. Fraud detection: https://gallery.cortanaanalytics.com/Collection/Online-Fraud-Detection-Template-1
4. Predictive maintenance: https://gallery.cortanaanalytics.com/Collection/Predictive-Maintenance-Template-3
5. Perceptual Intelligence - See - https://gallery.azureml.net/MachineLearningAPI/b0b2598aa46c4f44a08af8891e415cc7 and https://gallery.azureml.net/MachineLearningAPI/02ce55bbc0ab4fea9422fe019995c02f and Hear: https://gallery.azureml.net/MachineLearningAPI/89d229231a72471ebf7280fb5bd3e18c and Read: https://gallery.azureml.net/MachineLearningAPI/6948e0a54fe44e6fb70cbcc143b31298
6. Personal Assistance - Learning, human interaction, proactive - https://gallery.cortanaanalytics.com/browse/?categories=["Collection"]
7. Example Video: https://blogs.microsoft.com/business-matters/2015/07/13/dartmouth-hitchcock-ushers-in-a-new-age-of-proactive-personalized-healthcare-using-cortana-analytics-suite/
8. Example of HowOld.net - https://how-old.net/#
9. Mechanics: http://blogs.technet.com/b/machinelearning/archive/2015/05/04/fun-with-

ml-stream-analytics-and-powerbi-observing-virality-in-real-time.aspx?

Understanding Requirements Mapping

1. Statements are Objectives
2. Break objectives into:
    1. Requirements (solution must do)
    2. Constraints (solution cannot do)
3. Nouns become Entities
4. Verbs become Relationships
5. Group like-Nouns into full Entities
6. Lay in requirements into a data flow
7. Apply constraints to refine flow
8. Select components (on-prem or off) that meet the requirements, based on the constraints
9. Create solution diagram
10. Review with technical and business teams
11. Refine based on input



1. Business Requirements process is here: https://www.mindtools.com/pages/article/newPPM_77.htm

Implementing Architecture Designs

1. There are multiple ways to achieve a solution
2. Take into account all requirements, all constraints
3. Investigate any domain knowledge you are unsure of
4. Question everything
5. Communicate with technical and business teams

1. Full software methodology is here: https://msdn.microsoft.com/en-us/library/ee658084.aspx

Business Case

AdventureWorks is a company that makes and sells bicycles. The sales are conducted around the world. We also support our products. Interestingly, the issue we're facing is in our facilities.

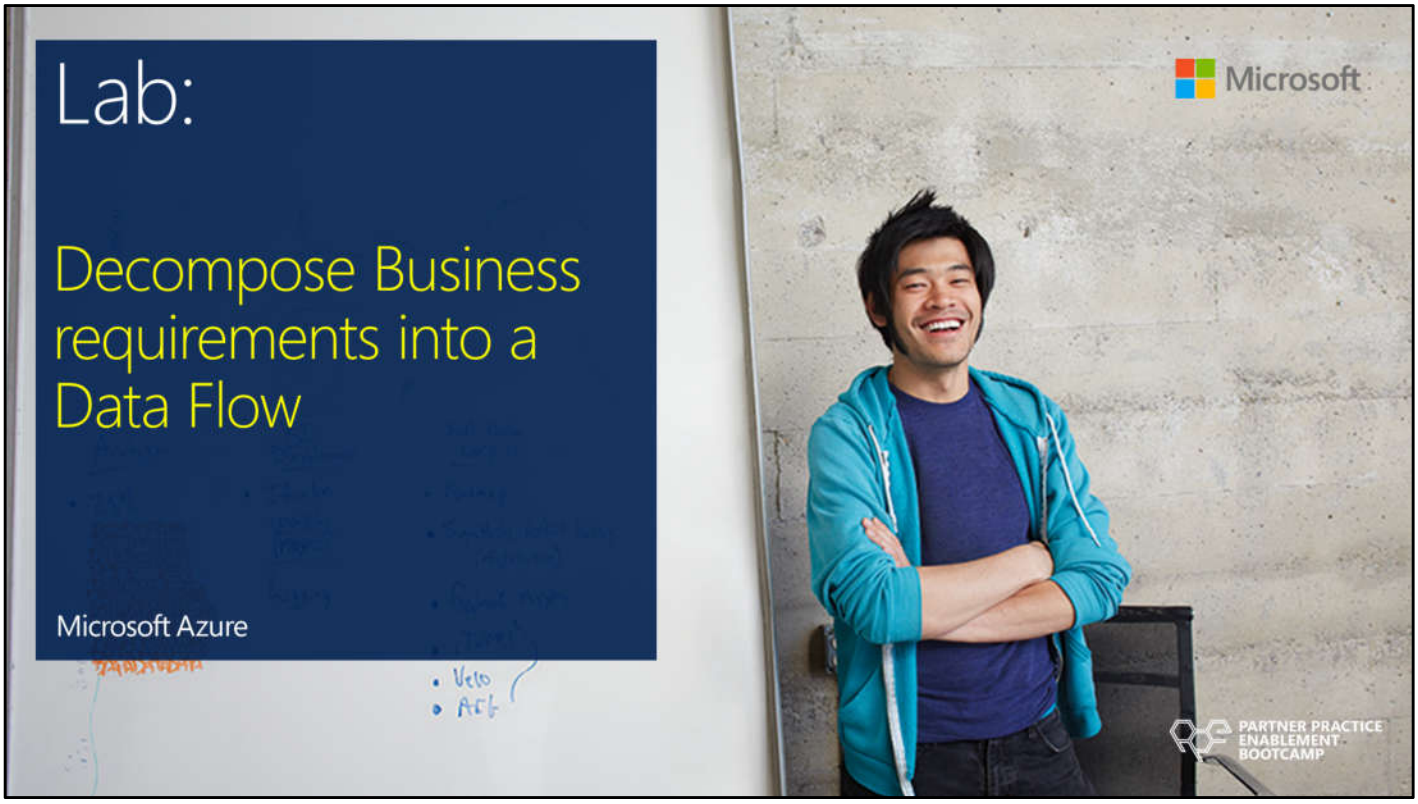
We need to know a lot more about our HVAC systems – they are critical to the machinery that creates the fine-detail parts on our products. The HVAC systems have sensors that create a lot of data – several million records a day, in fact.

We have facilities around the world, and when a facility runs "hot", we have to shift production to another part of the world. With our just-in-time manufacturing process, this has huge financial impacts. We've had situations where the systems ran hot and we shifted production to another location (at great cost), and then we found it was an anomaly in the reporting system.

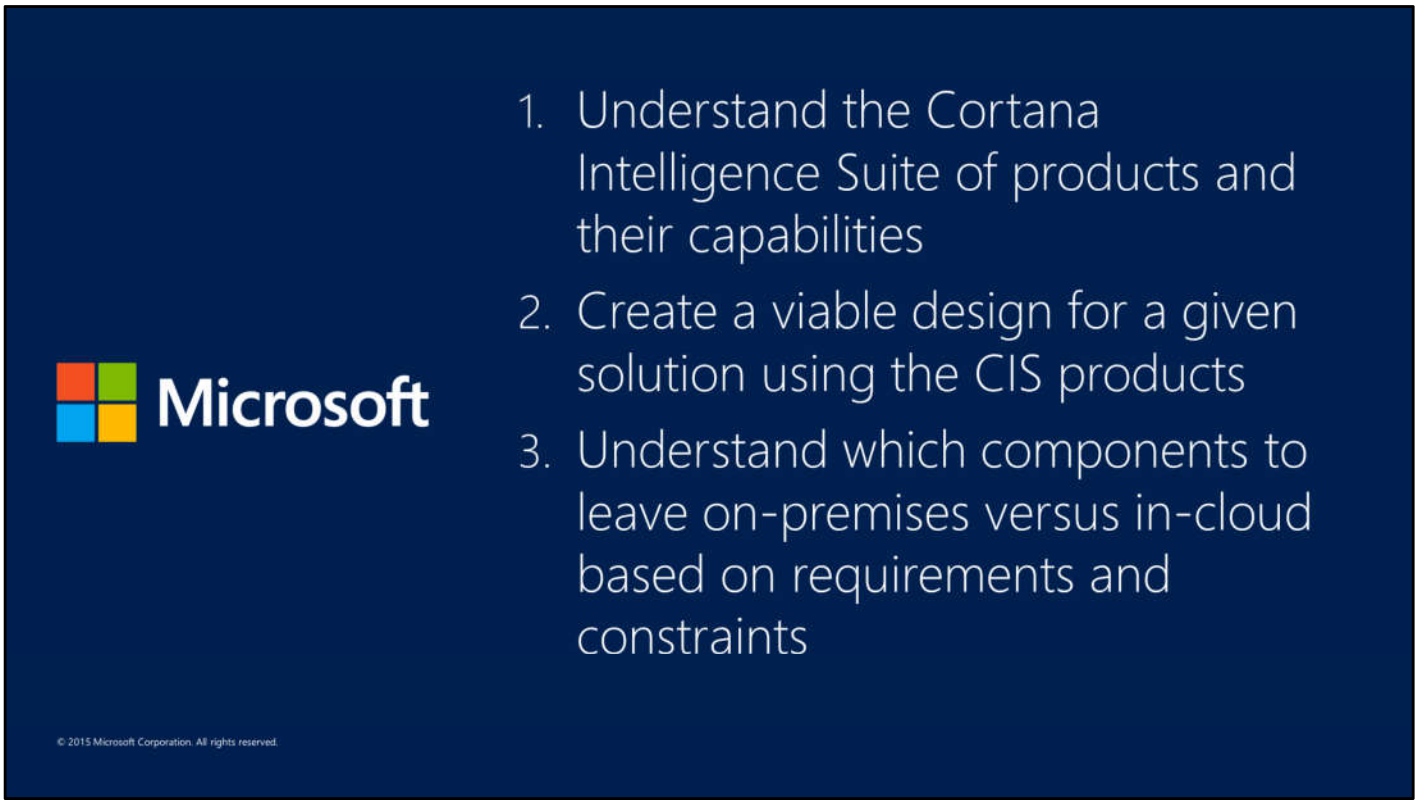
Ideally we want a graphic that shows our management team the map of where our HVAC systems are, and their daily status.

More on our in-house data: https://technet.microsoft.com/en-us/library/ms124501%28v=sql.100%29.aspx

1. The AdventureWorks Scenarios: https://technet.microsoft.com/en-us/library/ms124501%28v=sql.100%29.aspx



1. Examine your architecture notes from Module 1.
2. Using the "Cortana Intelligence Suite Components", "Requirements Mapping", "Business Case", and "Architecture Design" slides, create a data path for a solution to the business problem described.


Microsoft
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2. Create a viable design for a given solution using the CIS products
3. Understand which components to leave on-premises versus in-cloud based on requirements and constraints
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