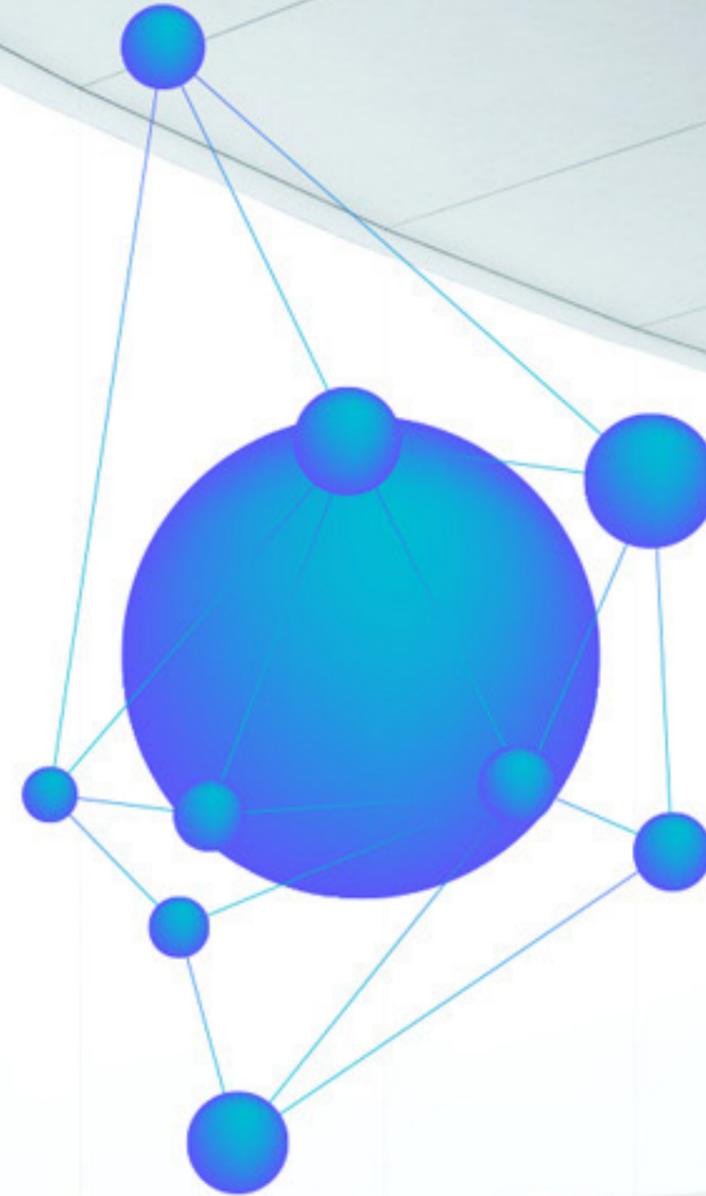


# — SENPAI

- The principal goal of Sirma is to create the unique cognitive software ecosystem, based on SENPAI (Sirma ENTERprise Platform with AI), and to develop powerful business solutions in our strategic industry verticals. SENPAI enables and serves intelligent enterprises by offering data integration and analysis.

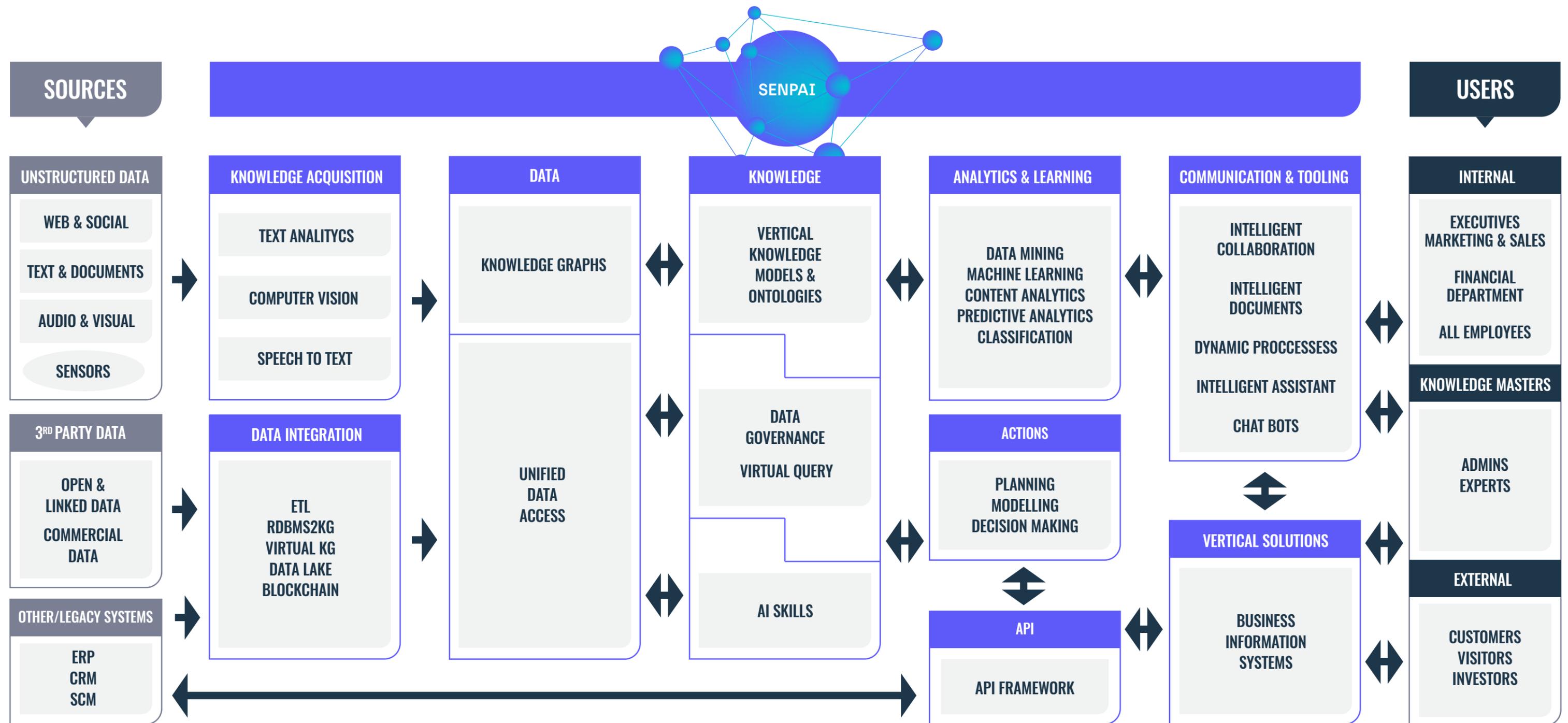


**SENPAI** is a cloud based platform with cognitive computing that allows multifaceted management of the intelligent evolution of the organizations.

### SENPAI comprises:

- **Stack of software technologies** which form the information infrastructure of the systems, products and services;
- **Core Cloud Infrastructure** - ensures the connection with other cloud platforms [Amazon Web Services, Azure, etc.] and IT systems;
- **Knowledge modeling and cognitive analysis platform** – includes analysis of images, text or other data;
- **Data Layer** for storing, managing and searching knowledge graphs, including proprietary and public data, as well as results from analytics. At the hearth of the data layer is Ontotext GraphDB – a semantic graph database engine with outstanding robustness, data integration and reasoning capabilities;
- **Sirma Enterprise Interaction Platform (SEIP)** - a LOW CODE platform, for building business applications without additional coding. The specific applications built on SEIP use vertical knowledge models to get specific view on and control the access to a big multi-purpose enterprise knowledge graphs. Each application can employ a specific combination analytic services, tailor-made process models and conversational interfaces.

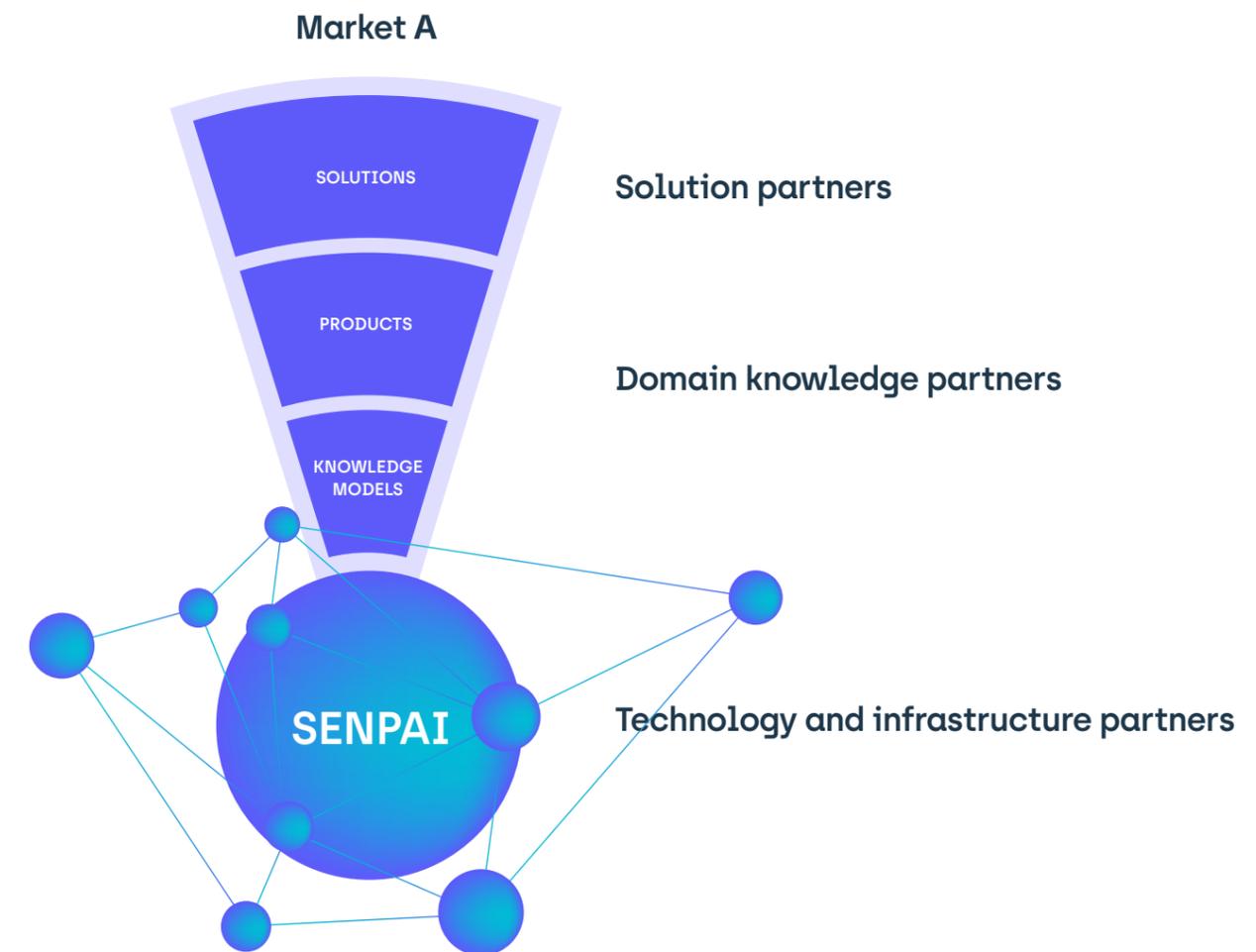
# What is SENPAI?



- Sets up tools for information management;
- Discovers and suggests models of instances, processes and trends;
- Harmonizes software applications and wraps the existing digital systems in a cognitive shell;
- Transforms physical processes into digital ones;
- Renders various services for cognitive analysis;
- Combines human experience with measurable data and analysis in order to predict and influence customer interactions;
- Complements existing digital products and services;
- Creates dynamic, collaborative environment with MESH connectivity;
- Enables agile creation and changes in product design providing organizations with a competitive advantage;
- Increases cyber security;
- Allows non-technical business users to build and publish apps tailored to their needs in a very short period of time.

## SENPAI Partner's ecosystem to build and deliver products and solutions in vertical markets

The model illustrates only one vertical of many possible.

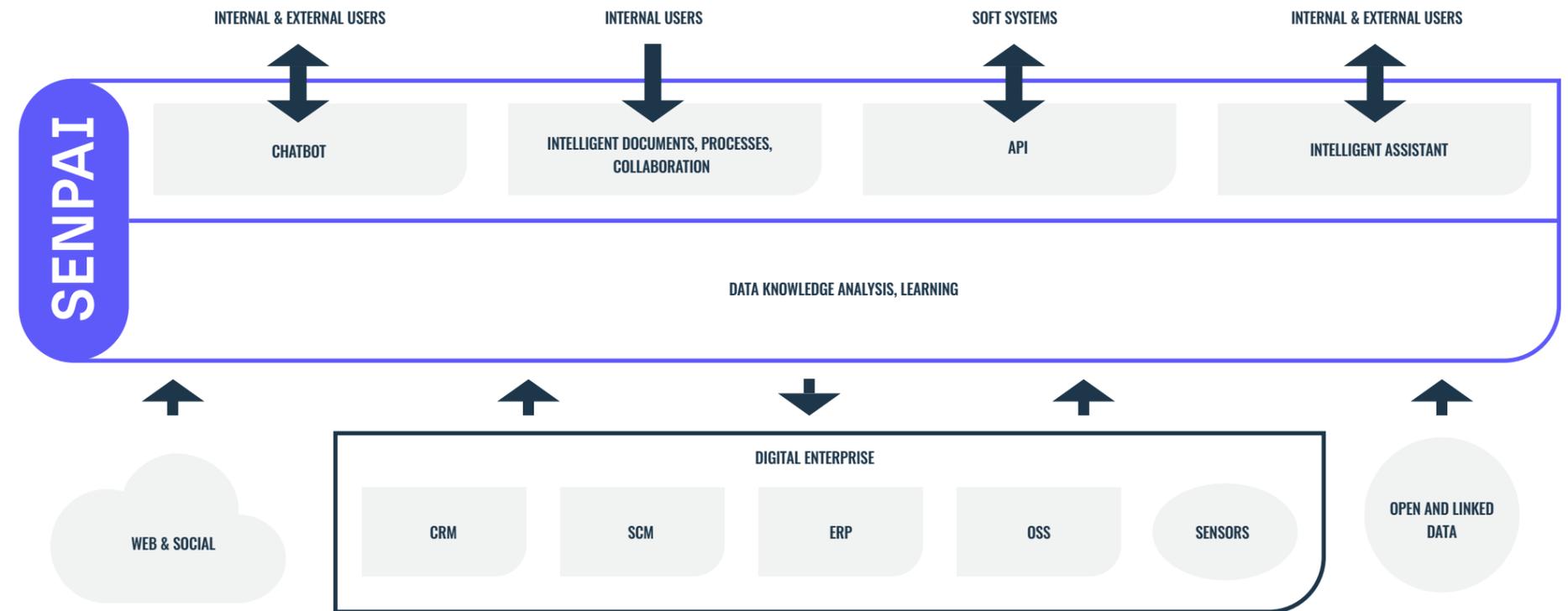


# How does SENPAI function?

The way **SENPAI** interacts with the whole environment involves combining information from disparate sources, internal and external to the organization, into a knowledge graph. To achieve this SENPAI uses a unique combination of technologies for unstructured content mining and data access, extraction and linking.

**SENPAI** uses ontologies and vertical data models and implements "AI skills" in order to provide agile and intelligent information retrieval tuned for specific applications. It uses machine learning to adapt its cognitive analytics services and rules in order to extract knowledge and infer new information. This way platform provides powerful tools for data analysis, generates actions and changes the knowledge graphs, based on feedback from users.

**SENPAI** executes effective communication with all kinds of users and implements workflows through the **SEIP** interaction platform, which supplies programming interfaces, chatbots and intelligent assistants.



SENPAI services could be introduced in a variety of workflows. The client applications can be entirely cloud based in terms of data storage, analysis, and search. SENPAI is able to provide:

- **Core Cloud Software Environment (Infrastructure)** – provides connection with other cloud platforms or system software; manages customers, access plans, controls and reports resource usage;
- **Cognitive analysis services for unstructured information** – images, text or other data; demographic analysis in a video stream, as well as face recognition over a predefined list of people in a video stream or image database.
- **Data and Database as a service** – offers database access as a knowledge graph. Provides a layer for storing, indexing and searching for data, knowledge and results from analytic services. Added value includes integration, updates, refining, normalization and structuring of data.
- **Knowledge models** - combination of public and private data, linked in large knowledge graphs in specific domains, along with text analysis models, predictive analytics and natural-language interfaces.
- **Content management** - analysis, indexing, semantic search and recommendations of documents and other content using domain Knowledge Models enriched with proprietary data.
- **Business Interaction Platform SEIP** – a LOW CODE platform designed to build business applications without additional program coding, which is a part of SENPAI and provides features for process management, collaboration, content creation and management, and natural-language interfaces (e.g., bots).

## Business Benefits

We talk-to-data owing to technologies used to develop Sirma's intelligent software. For instance, we explore data and knowledge via chat bots and near-natural language queries, in order to help companies gain competitive advantage and utilize the artificial intelligence for business benefits. Our products and solutions enable business in:

- **Handling Exponential Data Growth** - Represent adequately interrelations and knowledge structures owing to technologies. Utilize machine learning and intelligence to proactively enhance human capabilities.
- **Providing Holistic 360° Data View** - Access data from variety of data silos and turn it into valuable information, relationships and patterns.
- **Extracting Information from Hidden Data** - Apply cognitive algorithms mine information from sources like video, images, IoT data and deliver business and scientific insights.
- **Turning Text into Things** - Deal with large volumes of textual information to identify its relevance and to deliver it in context for analysis.
- **Embracing Complexity across Organizations** - Blend information derived from text and data sources, allow adaptive business processes and operations, to make synergistic, proactive business decisions.
- **Using Modeling, not Coding** - Use business expert's language and knowledge to define behavior of information systems, and deliver value in an agile manner.