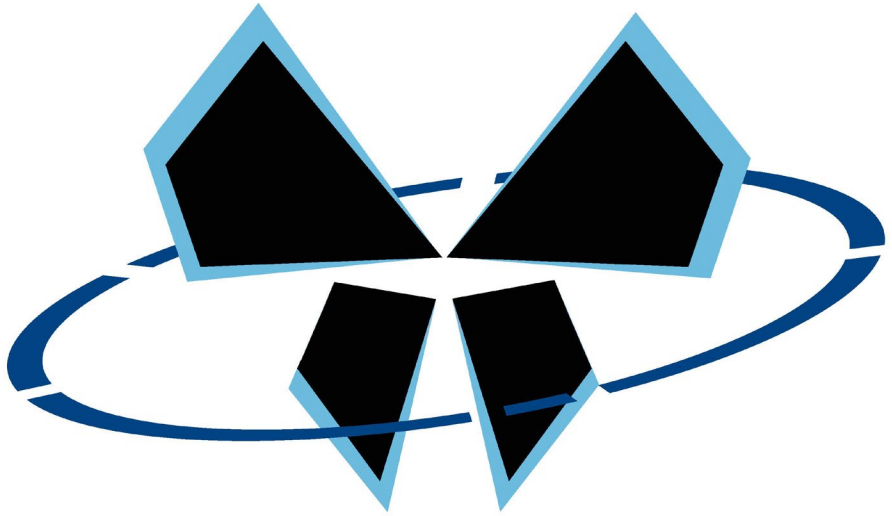


D2K Tech

Company Overview

Maria Walker CEO

- Organized and incorporated in the state of California in 2014.
- A minority woman owned small business limited liability corporation.
- Located in Oceanside, California with virtual offices throughout the State, Nation, and World.
- Currently 13 employees and 3 Contractors – 13 are software engineers.
- Serving domestic and international clients with mission and safety critical applications.
- Broad experience with government, industrial, and manufacturing industries with an emphasis on NASA.
- Over 50 years of Combined Experience Deploying PHM and Intelligent Systems Across Multiple Industries

Transformational

Company Overview

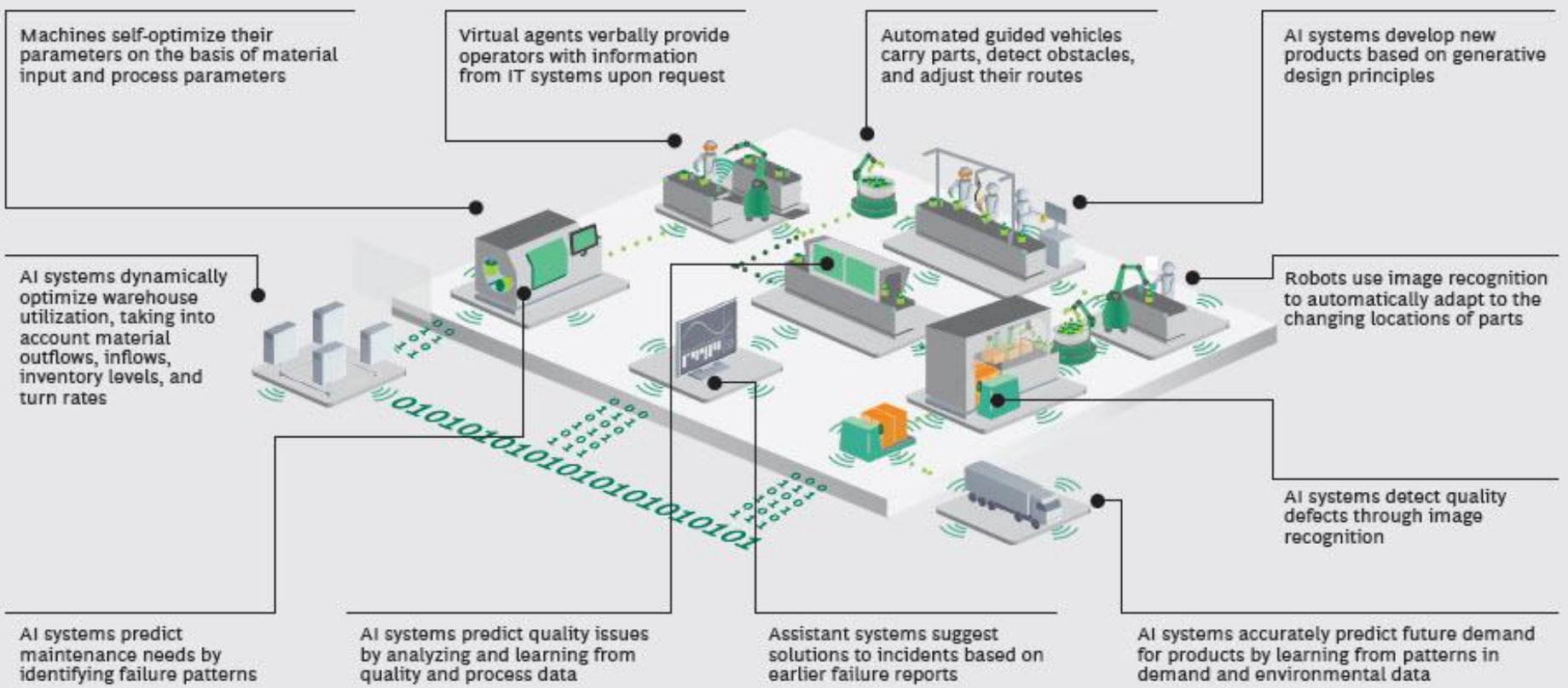
An AI Software **Solutions** company

Focus: to leverage AI Platforms for delivering "Situation Aware" software. SA software is cyber-physical software that leverages model-based reasoning and encapsulates insight and understanding regarding operation, availability, production, product quality, uncertainty, and adaptation.

…software that can **intelligently** and **autonomously** monitor, control, emulate, execute, or optimize actions that will successfully ensure safe, timely, and dependable results.

PHM for Manufacturing Use Cases

EXHIBIT 2 | AI Will Be Ubiquitous in the Factory of the Future



Source: BCG Global AI Survey, February–March 2018; BCG analysis.

D2K Solution History in Manufacturing

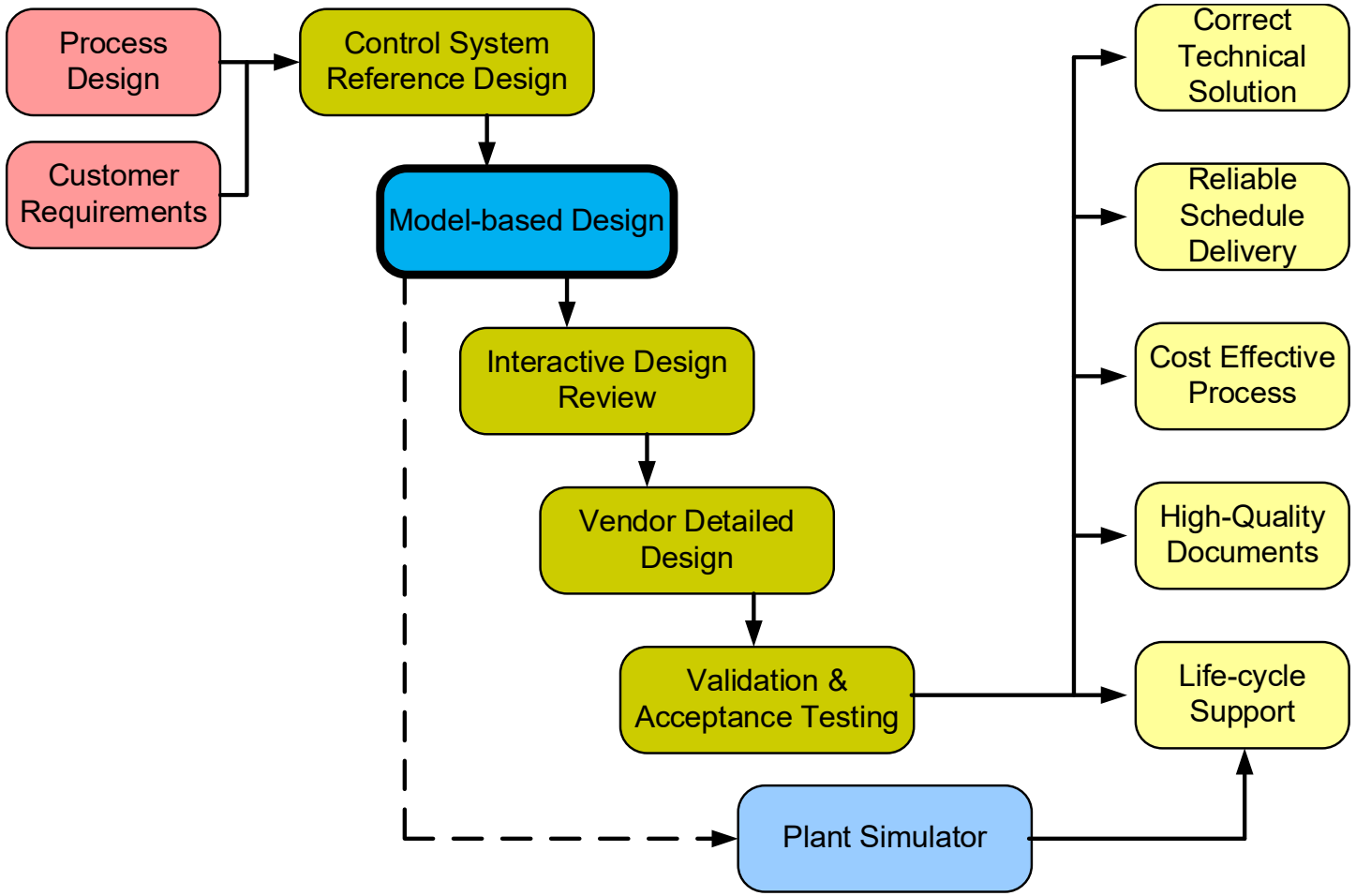
- Machine Health Assessment
- Physics of Failure based Prediction
- Usage Monitoring and RUL Prediction
- Offline Data Analytics and Reporting
- Process Monitoring, Control, and Optimization
- Online PID Controller Health
- Intelligent Alarming (EEMUA 191 compliant)
- Product Quality Assessment
- Situation Awareness, Visualization, Dashboard Creation
- Digitization and DIAK Integration
- **Enterprise Manufacturing Intelligence**

Transformational

D2K Solutions Engineering Services

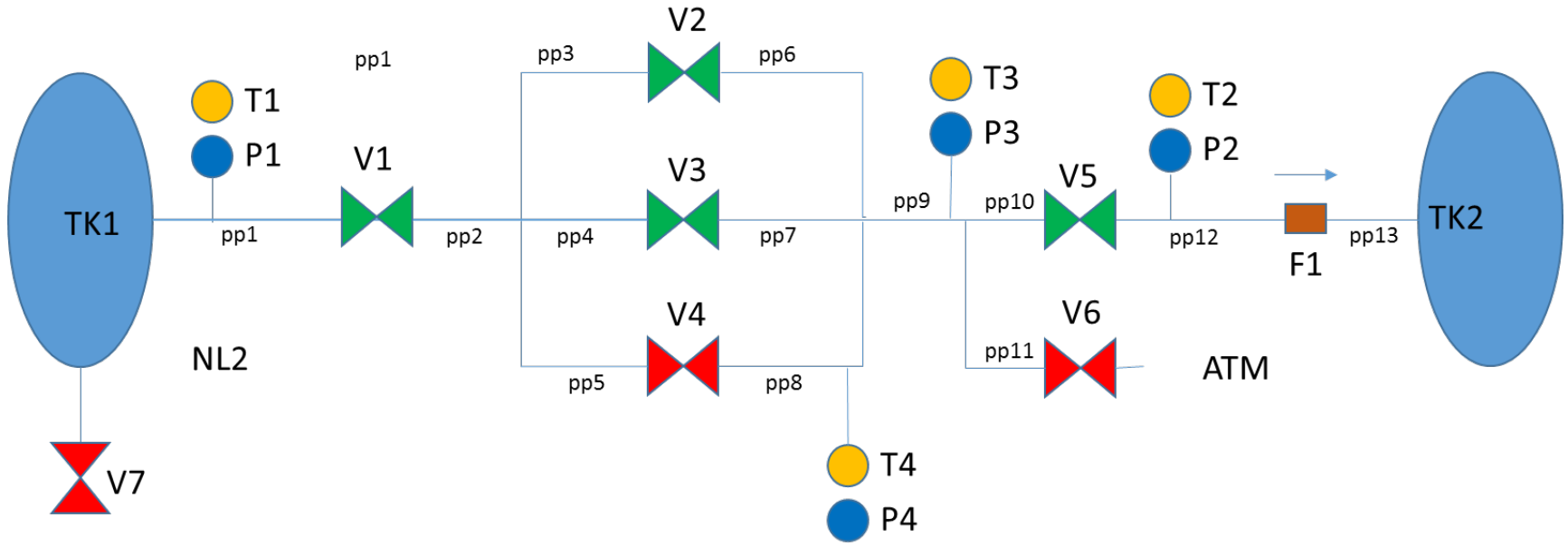
- Knowledge Engineering and Requirements Derivation
  - Model-based Engineering and Requirements Traceability
  - Reliability Centered Maintenance
  - Conceptualization of Digital Thread
- Algorithm Selection and Model Analysis
  - Data Science and analytics
  - Tools for training and validation
- Innovation, Implementation, and Integration
  - Agile development process
  - SQA and transparency with stakeholders
- Verification and Validation
  - Behavior based testing

Model-based Design and Digital Thread



Leveraging the "Digital Thread" through Model-based Engineering

Modeling Representation



Flow Subsystem as a Concept

Flow Subsystem 1: Members (TK1, pp1, T1, P1, pp2, pp3, V2, pp6, pp9, T3, P3, V5, T2, P2, F1, TK2), Source: TK1, Sink: TK2.
Flow Subsystem 1: Members (TK1, pp1, T1, P1, pp2, pp4, V3, pp7, pp9, T3, P3, V5, T2, P2, F1, TK2), Source: TK1, Sink: TK2.

Note: Reasoner incorporates the concept of Flow Subsystem and dynamically determines Flow Subsystems for any application and its current configuration.

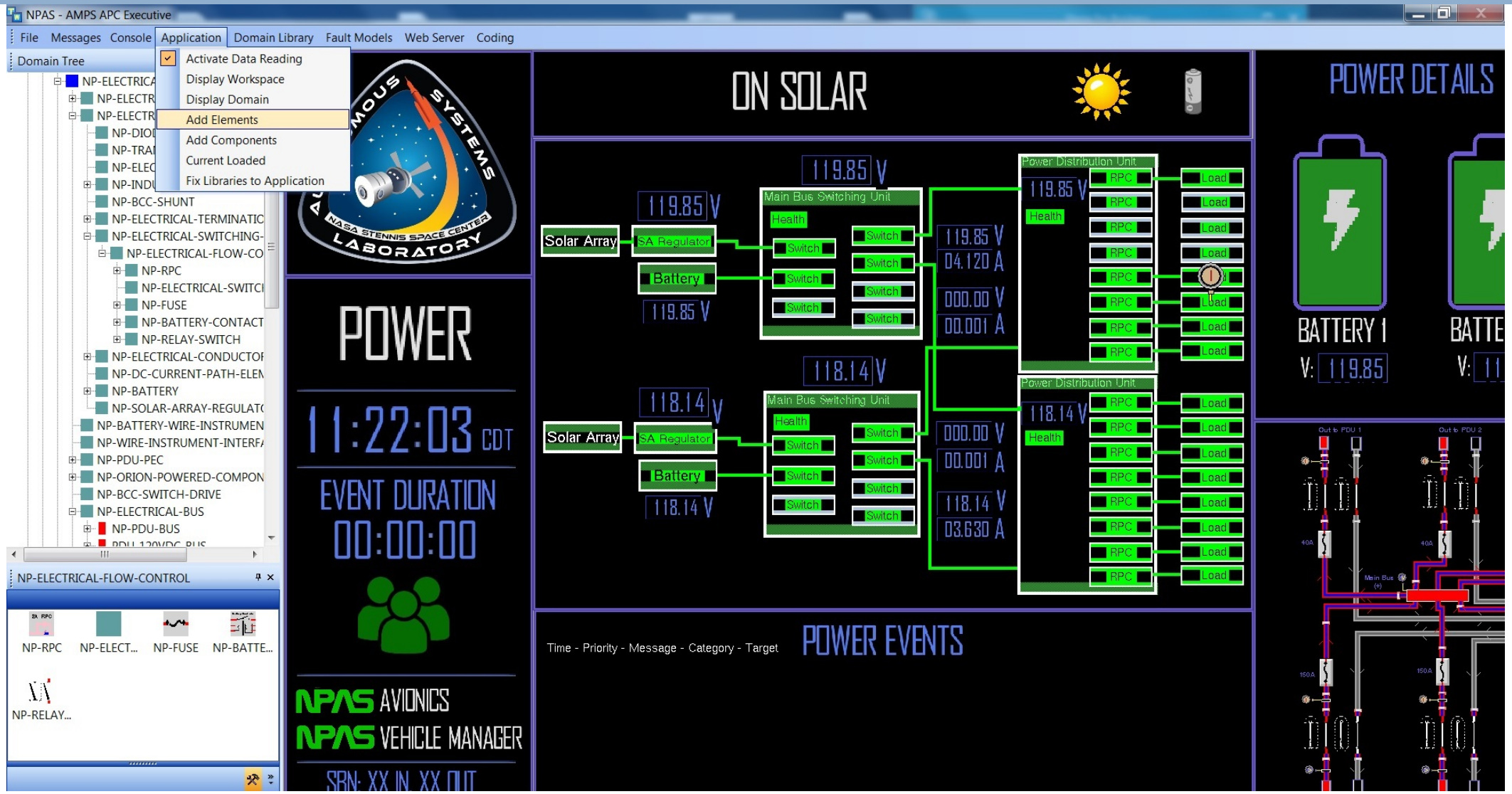
In Contrast with a data/information driven approach:

Flow subsystem selected from a pre-defined list that considers all possible combinations of valve configurations for all schematics

- generally hundreds or thousands of valves are involved, becoming a complex combinatorial problem.
- Any changes in the system (e.g. adding a valve) will require extensive work to update the combinatorial list.
- Any new system will require its own combinatorial list.

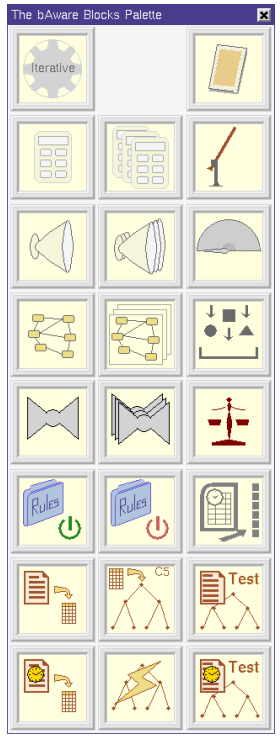
Transformational

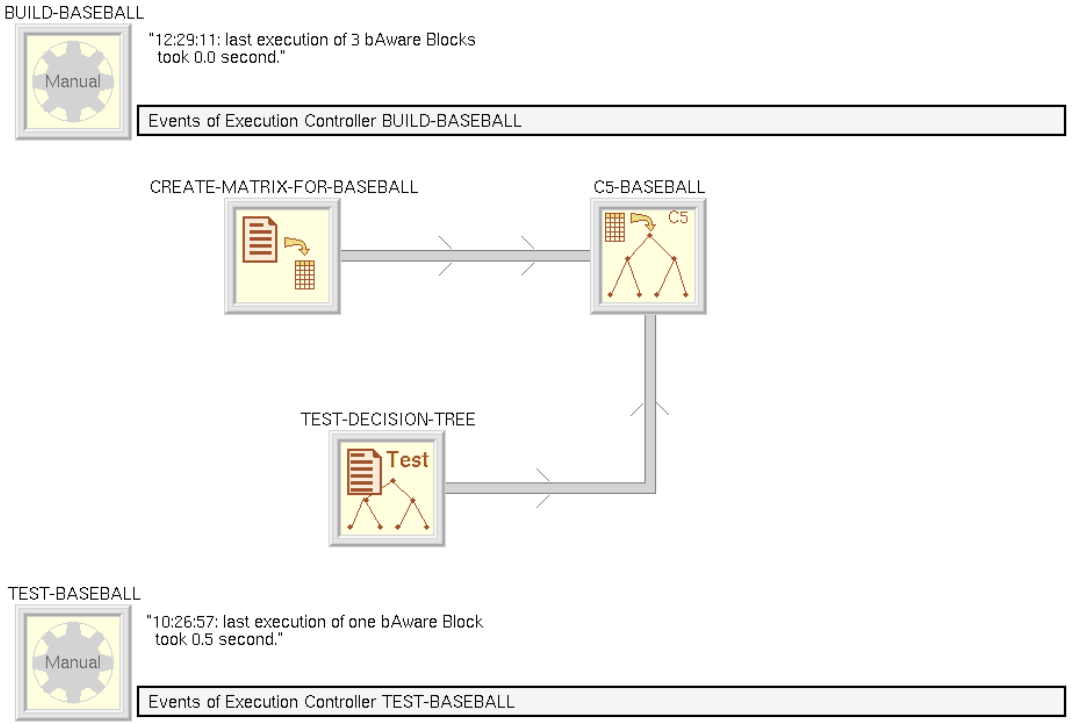
Extensible and Re-usable Class Libraries



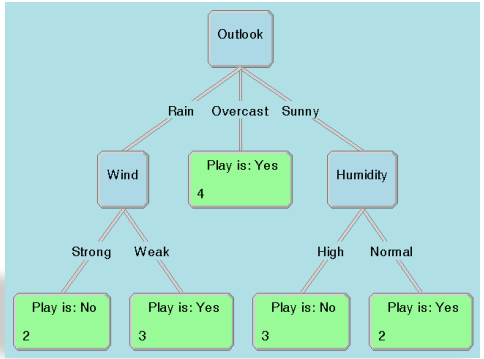
PHM Platform for Data Analytics

Example of PHM Platform for generating and testing a Decision Tree:



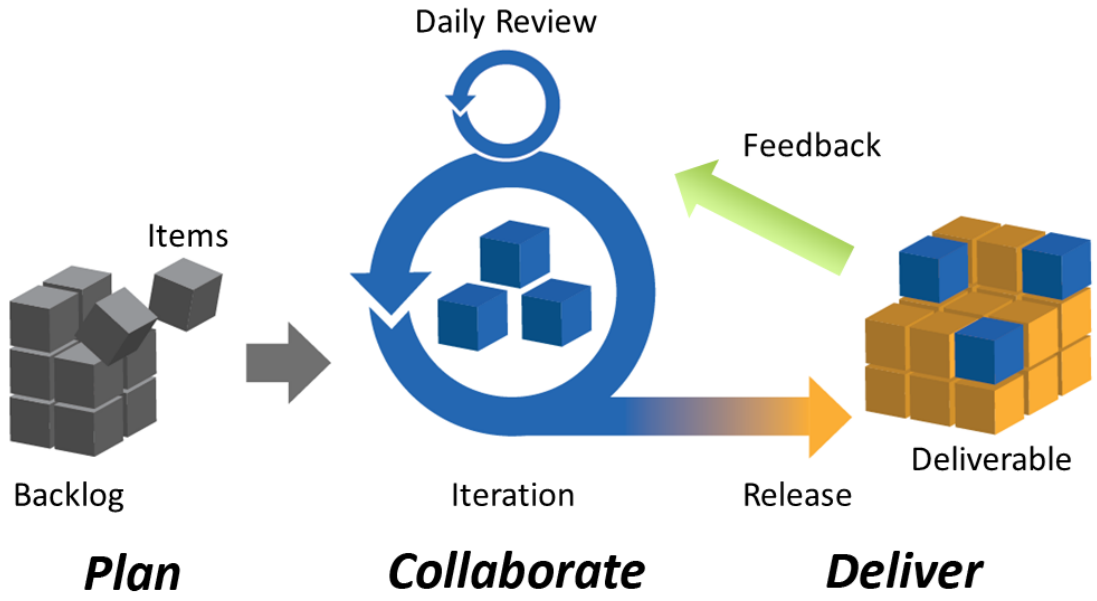


Outlook	Temperature	Humidity	Wind	Play
Sunny	Hot	High	Weak	No
Sunny	Hot	High	Strong	No
Overcast	Hot	High	Weak	Yes
Rain	Mild	High	Weak	Yes
Rain	Cool	Normal	Weak	Yes
Rain	Cool	Normal	Strong	No
Overcast	Cool	Normal	Strong	Yes
Sunny	Mild	High	Weak	No
Sunny	Cool	Normal	Weak	Yes
Rain	Mild	Normal	Weak	Yes
Sunny	Mild	Normal	Strong	Yes
Overcast	Mild	High	Strong	Yes
Overcast	Hot	Normal	Weak	Yes
Rain	Mild	High	Strong	No



D2K Agile Development Process

- Overview
  - Development teams and the project stakeholders work closely to deliver incremental , iterative software and value.
  - It is understood, expected, and embraced that requirements will change based on the customer's and market's evolving needs.
- Accomplishments
  - Most recently, D2K delivered software systems to a NASA NextSTEP-2 Habitation partner in less than 4 months. **The partner told NASA that they wished D2K had been working with them for the full 18 months of the Program.**
- Significance
  - Frequent collaboration between D2K and the customer ensures that projects never drift too far off course
  - Trust is built quickly by focusing on delivering value; not just billing hours



Agile Project Management: Iteration

Transformational

Enterprise Manufacturing Intelligence

- Model-based Enterprise
- Apply a top-down approach based on manufacturing mission
- Consider implications for monitoring both product and process
- Integrate all data and knowledge into a comprehensive understanding of overall manufacturing process
- Strong emphasis on presentation and visualization
- Don’t replace but empower SMEs and operators