1 **Assessment Example**

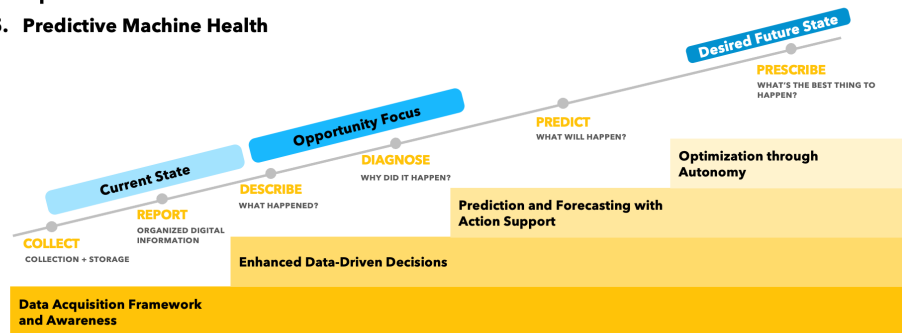# List of AI + Data
Opportunities

In this example, we found five AI and data opportunities, and ranked these opportunities along the data pyramid.

These opportunities are digital solutions that use the customer's existing data to create value for important stakeholders. For each product opportunity, we included: an example use case story, potential benefits, and recommendations on the best way to approach implementation.

The customer was inspired to use the top few opportunities into their new feature roadmap.

Product Opportunities

1. Normal Operation
2. Descriptive Events
3. Smart Notifications
4. Operator Recommendations
5. Predictive Machine Health

Desired Future State

PRESCRIBE
WHAT'S THE BEST THING TO HAPPEN?

Opportunity Focus

PREDICT
WHAT WILL HAPPEN?

DIAGNOSE
WHY DID IT HAPPEN?

Current State

DESCRIBE
WHAT HAPPENED?

REPORT
ORGANIZED DIGITAL INFORMATION

COLLECT
COLLECTION + STORAGE

Optimization through Autonomy

Prediction and Forecasting with Action Support

Enhanced Data-Driven Decisions

Data Acquisition Framework and Awareness

Normal Operation

Use historical machine data combined with Vermeer's subject matter

Ranking
Normal Operation

High / Low — Value Creation

Value Creation
- Use cases across all stakeholder groups.
- Provides a technical foundation for future use cases.

Example Story
Normal Operation

Seasoned operator runs the drill in the normal range. All is good.

Getting Started
Normal Operation

Start small and scale up
Focus on one or two metrics on a specific type of equipment that are valuable. For example, horizontal drill productivity, fuel usage.

Leverage your knowledge of the equipment
Do not rely solely on statistical analysis of machine data. Vermeer's internal knowledge of these machines will be critical to effectively analyzing the statistics and defining normal operation.

First Step: Offline Clustering Analysis
Start with an offline analysis to explore trends that emerge. Engage subject matter experts to understand the trends.

Benefits
Normal Operation

Potential Use Cases
- Customers can extend useful life and reduce maintenance costs by ensuring proper use of equipment.
- Dealers can identify over/under-utilization and make recommendations for right-size equipment.
- Dealers can utilize the information to provide additional recommendations and training.
- Vermeer product planning can take insights around normal operation to inform product roadmap and customer needs.

Technical Benefits
- Foundational input to anomaly detection for higher-level insights and recommendations.
- May provide clarity on which additional data sources are valuable.
- Providing a definition of normal will highlight data quality issues and expedite resolution.