# Data at Work

How John Deere may use collected data

Now and into the future, data may be used to make improvements to equipment and create resources to make our customers' business more efficient. The principles of value, transparency and control will guide our decisions around data management as we continue the relationship that we've been building for 177 years.

## Machine Data may be used to...

Provide the customer services:

We need access to machine data to provide services such as: JDLink<sup>™</sup>, Remote Display Access, Service ADVISOR<sup>™</sup> Remote, as well as other current and future John Deere tools. Improve experience with our equipment:

- More quickly alert dealers with special instructions to help customers work around problems
- Create and publish remote software updates to machines before customers have been impacted
- Move service parts inventory to dealers to limit downtime
- Identify well timed Product Improvement Plans

## Develop new products and services:

- Information from current machines can improve future machines durability and uptime
- Understanding machine performance across the fleet of tractors can create:
  - Automation routines that identify changes in machine performance gives us the awareness we need so equipment can automatically make needed adjustments, or share alerts with the operator to make changes manually.
  - Better equipment selection guides for dealers to help customers select equipment that will best benefit their operation
  - o Tools that reduce set-up time and machine calibration

Production Data may be used to...

Provide services:

- Administer services that customers have opted to use or purchase such as:
- Location History, Wireless Data Transfer, or other current and future tools Improve experience with our equipment:
  - Proactively determine in-season issues in the overall fleet when used in specific task, crop, product or material flow conditions with that information we can:
    - More quickly alert dealers in areas likely to experience those conditions with special instructions to help customers work around possible problems
    - Create and publish remote software updates to machines before customers have been impacted
    - Move service parts inventory to dealers to limit downtime
  - Increase uptime and improve machine performance through product improvement programs after analyzing production data in specific conditions



#### Develop new products and services:

- By understanding crop, material flow, climate and land conditions through our combine harvesters we could develop:
  - New combine harvester models, specialized features or grain handling mechanisms that better perform throughout the wide array of production scenarios
  - Automation routines that identify changes in conditions and machine performance. With that awareness, the equipment could automatically make the adjustment, or send an actionable alert to the operator to make a change manually
  - o Tools that reduce set-up time and machine calibration
  - o Tools that help customers optimize field operations and grain handling tasks
- Through a deeper understanding of crop/product, material flow, climate and land conditions experienced by our equipment, we could make similar productivity advancements for customers across all of the different operations performed by our equipment.

## What does it mean to externally share data?

Today, John Deere is not directly sharing or selling data to third parties. The customer may grant access to another company and make data accessible to them. John Deere may in the future share anonymized datasets with third parties, but data in any such sets will not be traceable back to the customer.

We will externally share data to create...

Benchmarking services:

- Create comparison charts of how the overall fleet of harvesters was set (headers, thresher, sieve, chopper settings, etc.) when harvesting a particular crop/hybrid in similar conditions to assist customers in determining how to best set-up combine harvesters, reducing machine set-up time and improving productivity.
- Create summary reports of an entire country or region average yield results for a particular seed hybrid with similar growing conditions and management practices.
- Create summary reports of the impact to the yield of a given hybrid in similar growing conditions that different management practices have such as row spacing, seed population, tillage practices, nutrient applications, fungicide applications, etc., enabling customers to evaluate different management scenarios and to make better decisions in a subsequent growing season

## Other information services:

- Create product performance reports that allow seed and agricultural chemical companies to understand how their products work under various growing conditions and management practices as an input into research and development activities
- Create product distribution reports that help agricultural retailers and agricultural service providers understand how to more effectively target specific products or services to geographic areas where they will have the most benefit
- Develop agronomic effect analyses that can be used by universities and other research organizations to study the effects of different agriculture practices on overall agricultural productivity
- Generate industry research reports that allow equipment industry consortiums to understand trends in machine utilization in different geographies

All above examples have the potential to assist in further development of productivity in the agriculture, construction forestry and turf industries.

John Deere is not promising that we will do these things, but without access to Machine and Production Data from customers we may not be able to pursue these productivity increases for customers and John Deere in the future.