

VM SOLUTIONS DRIVING INNOVATION

Nutrien[®]
Solutions



LOCAL APPROACH.
NATIONWIDE EXPERTISE.



NutrienVM

Utility right of way managers have a lot of information to keep track of.

Documenting contractor crew locations, measuring crew productivity, keeping tabs on herbicide inventories, and reconciling application data requires a lot of effort.

Our lives are carried around in our phones, so why is this type of information being recorded manually? Paper can get lost or damaged and takes time to be passed on from contractor to utility.

Enter NutrienVM, the cloud-based application that allows you to collect real-time herbicide and

mechanical work activities in the palm of your hand. And NutrienVM's metrics can be used to provide benchmarking opportunities and generate auditable reports.

NutrienVM is powered by AWS, which is the leader in mobile data security. So you can rest assured, all of your data is protected, and when issues crop up, they can be identified quickly.

Using NutrienVM also allows for greater workplace safety. Less time spent on paperwork and cross-checking, means more time and resources can be spent on improving worker safety.



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WHAT IS THE NUTRIEN TECHNOLOGY INITIATIVE?

The idea behind the initiative was to develop digital tools to help our clients manage their business better. When we launched this initiative, we were working with one of our clients to help them implement UAA's Best Management Practice (BMP) on Closed Chain of Custody (CCC).

Even though our client was using custom blended products and returnable/refillable containers as a best practice, they still lacked the audit capability to track herbicide usage.

It's one thing to write down a drum number – but how do we know how much the contractor purchased, how much they applied, and what

was actually in that drum? And was the herbicide purchased actually the same product used on their ROWs?

The Nutrien Technology Initiative was created to help tackle some of the gaps in UAA's BMPs.

There's no question that BMPs play an important role in managing vegetation – they can help to mitigate risks, protect the public, reduce costs, and instill confidence from the public. But documenting these benefits is often a challenge.

NutrienVM is a tool that takes the BMPs to the next level through technology.

WHAT IS NutrienVM?

The platform is designed to collect and manage both herbicide and mechanical work activities.

So, instead of writing things down on paper or trying to enter it into laptops – the app collects everything on an iPhone. But it's more than just a data entry device - NutrienVM allows the user to have everything they need in the palm of their hand.

This increases accuracy and provides a pathway for the information collected to be used for other purposes.

The app is synced "real-time" to the AWS Cloud. As data is collected – it's shared with other crews working on the same area. This allows the crews to see a complete picture of who's working where, what they are doing, and what their current inventory looks like.

NVM also allows work submitted by contractors to be 'bridged' with other programs, and the contractor and the utility are able to use the data for other purposes.

THE DIGITAL TOOLBOX

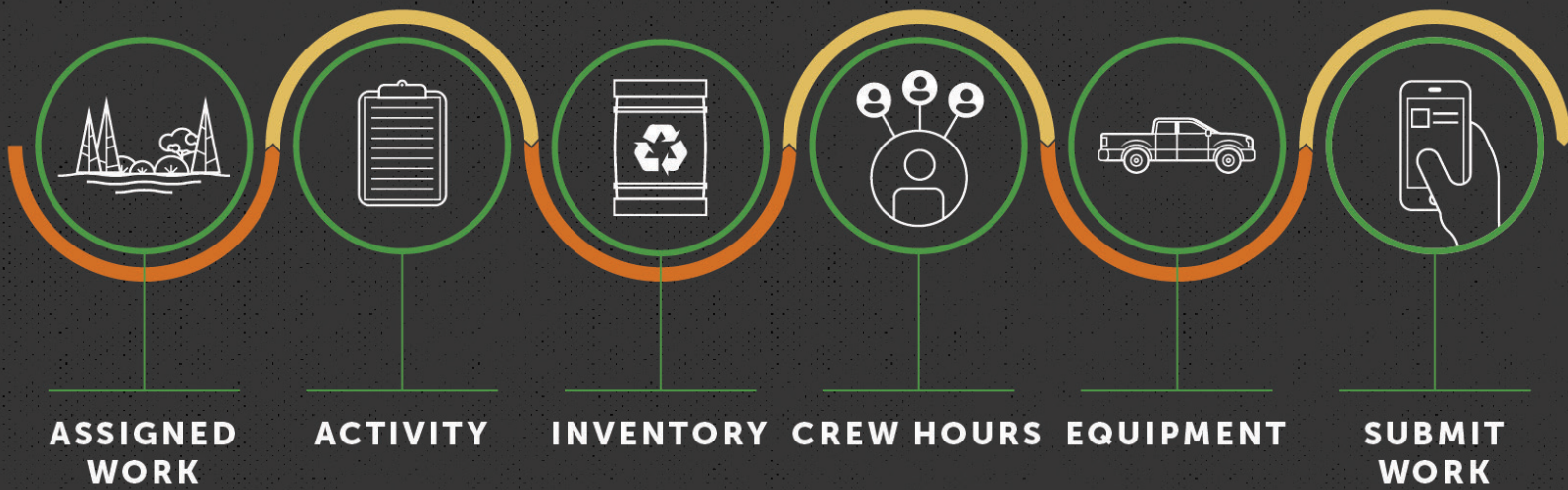


So, once the data hits the Cloud, it can be used to:

- Track productivity
- Track costs
- Create work activity reports
- Access real-time herbicide inventory
- Build invoices
- Create daily Pesticide Application Reports to meet state regulatory requirements.
- Be ingested into other work planning data platforms.

HOW DOES IT WORK?

- Field data is collected for herbicide applications or mechanical activities.
- The app pre-populates fields to eliminate redundancy – things like crew information, equipment, and location information.
- It's supported by a web-based platform for data management and metric reporting back to the office.
- It also provides the easy access to GIS data, herbicide inventories, corridor information, equipment, crew data, and other key pieces of information through dropdowns.
- The program is intuitive - once the work is assigned to the crew leaders, the app navigates the user through a simple 'step by step' process.



HERE'S WHAT THIS TECHNOLOGY SOLVES:

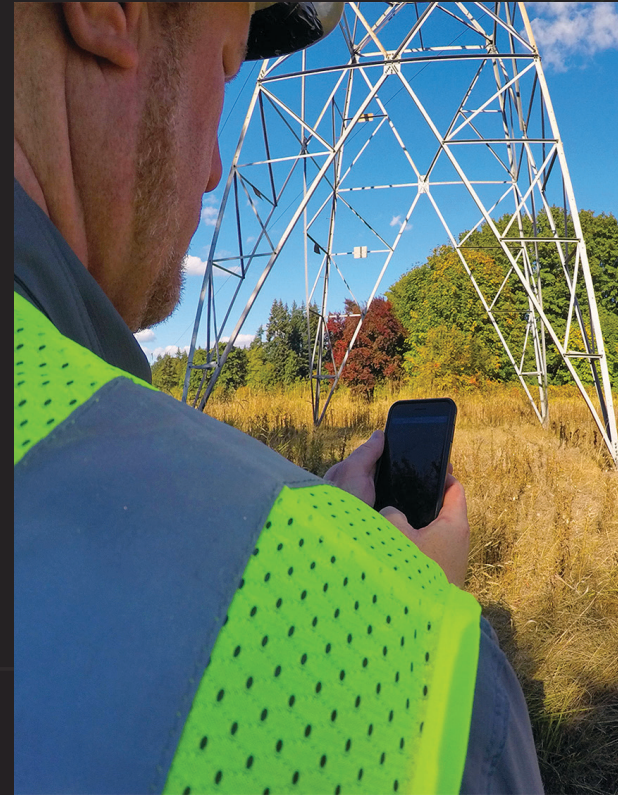


- When a contract is awarded, there are a tremendous amount of inputs and outputs required by both the utility and the contractor.
- It's imperative that critical information is in everyone's hands – having access to the right information has a direct impact on the success of the program.
- NutrienVM bridges all of this information together. It takes external data sources and multiple application interfaces and integrates them into a single, seamless platform.
- Its about having all of the key operations data at your fingertips.

How can you get started with NutrienVM?

FOUR EASY STEPS:

1. The first step is to help us understand your workflow process - what is required for contractors working on your system? If you hired a spray contractor today, what is required for them to spray brush on your ROWs? And how are invoices submitted once the work is complete?
2. The next step in the process is about data collection - as part of the workflow process we'll help identify ways to enhance data collection. We help identify efficiencies for the contractor and make sure they link back to requirements and approvals on your end.
3. The third step is reporting. Once we understand the basic workflow and field data collection requirements, we can help you identify metrics needed to accomplish your business objectives.
4. The last step in the process revolves around contract specifications - this is ultimately what sets the expectations for everyone involved in your program - whether it's time and materials contract or lump sum.



KEY FEATURES

- **Safety** - NutrienVM provides contractors additional time and resources to focus on worker safety through efficient data collection processes.
- **Time Management** - NutrienVM creates efficiencies in time management that can be reinvested into training and supporting personnel.
- **Monitoring Crew Activity** - NutrienVM allows contractors and the utility to more efficiently monitor real-time crew activities. For example, we can provide metrics indicating application rates per acre fell below effective control levels - this could lead to proactive actions that minimize re-treated acres the following year.
- **Quality Control** - NutrienVM limits unknowns and improves the control and effectiveness of herbicide treatments. Metrics allow utilities to identify issues quickly - inaccurate time-sheet entries could indicate under or over billing, improper reporting and work plan deviations.
- **Reconciling Invoices** - NutrienVM increases accuracy and reduces the time spent in reconciling invoices through a faster approval process.
- **Data Entry** - NutrienVM greatly reduces errors associated with time-sheet entries, application reports, and invoice generation.
- **Regulatory requirements** - NutrienVM helps applicators accurately complete state-required Daily Chemical Reports.

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