An Overview of Current and Planned AgGateway Work
May 2021

Following is a high-level overview of AgGateway current and planned activities in North America, Europe and Latin America. It may not include work being done by some committees and task forces, such as improvements to AgGateway's Ag Industry Identification System (AGIIS). If you would like more information or would like to take part in any of these activities, contact AgGateway's Member Services at Member.Services@AgGateway.org.

ADAPT - Interoperability in Field Operations: AgGateway's ADAPT has already been a powerful addition to the digital toolbox. For example, a newly developed ADAPT plugin enables the traceability of product shipments sent from a retailer and used during field operations. The ADAPT team is now working to prepare the underlying data model to propose as a global standard. We believe this step will increase the adoption of this free, open-source software even more. ADAPT enables agriculture-data interoperability, helping ag retailers, agronomists and growers better manage data and apply it to make improvements in their operations.

Lab Data Standardization: Soil test data is the most commonly used data layer in digital agriculture. Soil composition and quality is a basis for many other agricultural recommendations and decisions, such as planting, irrigation and crop protection. Yet today only about 30% of VRT applications for row crops are based on a soil test. This is partly because there is such a variety of data formats in the industry. AgGateway is working on a common soil test data format across regions and platforms, compatible with the ADAPT framework and existing regional standards. AgGateway is working with soil labs and lab software companies to provide a comprehensive and open standard. As a parallel effort in Latin America, a team is working with entities that regulate the quality of soil analysis, including Embrapa Soils and the Agronomic Institute of Campinas, as well as other key groups and agricultural companies.

Product Catalog: The popularity of retail and consumer facing eCommerce systems, and customer expectations for relevant, timely and consistent product catalogs, pose challenges for product manufacturers and distributors. Crop protection and seed manufacturers want to ensure online stores have complete, accurate and up-to-date information in their product catalogs. To address this issue, an AgGateway team has completed version one of an API (Application Programming Interface) definition for the management of product catalog data. Several businesses are currently implementing catalogs using the API, which focuses on data for crop protection products. As a next step, AgGateway team participants plan to onboard additional crop protection members and expand the API to include seed and nutrition products. The new API is free and available for industry use.

Smarter Irrigation (PAIL): AgGateway's irrigation work addresses processes and data requirements that enable more effective water management, thus conserving both water and energy. Members of the precision ag irrigation team have successfully tested implementation of

Part 2 of the PAIL data exchange standard. This part of the standard deals with the observations and measurements data. Parts 1 and 3 of PAIL are already a national standard (ASABE S632 - ANSI ASC). The team is poised to conduct a case study this summer.

Traceability: AgGateway's In Field Product Identification Working Group has identified numerous points in the supply chain to improve digital connections for traceability. The goal is to improve product identification within field work records. Current sub-groups include Seeding & Crop Protection, and Provenance (which includes grain traceability). The working group is poised to pilot the delivery of specific crop product shipment data from a retailer to a task controller display. This work was supported by a newly developed ADAPT plugin for infield product identification. Also:

- In Europe, teams are working to standardize data exchange for Work Orders and Work Records, specifically for seed, fertilizer and crop protection products.
- The ability to trace a product throughout the supply chain often requires finding data that reside in disparate data repositories The newly formed Data Linking Subcommittee is working to provide the framework and metadata definition(s) that allow linking of key agricultural data sets resulting from supply chain and field operations.

Energy Product Sales: An AgGateway group of agricultural retailers, distributors, energy suppliers and software solution providers is setting the standards to improve the speed and efficiency of data exchange in the shipping and receiving of energy products (e.g., refined fuels, liquified petroleum, grease and lube products), and is inviting other interested parties to join the effort. The group began by creating a value calculator for the ag energy ship notice, which helps demonstrate the benefits of establishing digital connectivity for energy transactions. Next the group will develop and deploy a digitally connected shipment-to-invoice process for ag, commercial and consumer fuels movement.

Fertilizer Blend Work Orders (Mix Ticket): An AgGateway team of companies that produce or use fertilizer blending equipment has developed standards to support blending and dispensing processes. The group completed an enhanced version of a standard for dispensing work orders and work records, including guaranteed analysis. The work order specifies amounts and sources of inputs into a blending operation as well as the output locations. Work records include data about what was actually done. The team has published a .NET library with source code for serializing and de-serializing the JSON messages.

Reference Data API: Reference data refers to such data as code lists, identifiers, product information and configuration parameters. The Agrisemantics Working Group has developed a reference implementation of a ContextItem API. ContextItems are variables that can be used to convey information specific to a given country, state or other jurisdiction, such as EPA numbers, FSA Farm and Tract numbers, Public Land Survey System data, etc.

Crop Protection Connectivity in Canada: By implementing digital connections between crop protection product manufacturers, distributors and retailers, companies can greatly improve the order process and sales reporting – often with direct and significant impact on the bottom line. Endorsed by CropLife Canada, the Canadian connectivity project is working to create digital connectivity between trading partners. The work builds on AgGateway's successful and proven approach already in wide use in the U.S. crop protection industry.

Standard Reference Data for Crop Protection Products: In Europe, Lexagri's Homologa contains information regarding plant protection products from more than 70 countries. An AgGateway team is working to develop a standard REST JSON interface to exchange the standard master data (reference data) for crop protection products. Users will be able to link to the Homologa database via an FMIS. The interface will also be used by Homologa itself to collect data from the official regional crop protection databases. The team has developed a standard reference data model on crop protection product data. The second deliverable will be the design of the standard JSON request to retrieve information from crop protection reference data repositories like the Homologa database. A proof-of-concept will be carried out implementing the reference data model as an RDF (Resource Description Framework) implementation.

Farm inputs - Standard Crop Protection Recommendation: Another team in Europe is bringing together companies and ag data specialists to standardize data exchange concerning the use of farm inputs such as seed, fertilizer and crop protection products (Work Order/Work Record). The focus is on exchanging crop protection recommendations between advisory systems and a user's FMIS, and to exchange recordings of applied crop protection products at the crop/field level. By setting a data exchange standard, companies can better support sustainable agriculture, increase transparency and improve interoperability, as well as provide opportunities to boost innovation. For this work, AgGateway's ADAPT data model (Work Order, Work Record) are used as a starting point.

Planned Activities

Carbon capture is of high interest across all regions. Look for more on this topic at AgGateway's 2021 Annual Conference in November.

Potato Track and Trace: An AgGateway team is organizing to work on a global standard to track and trace potato crop from planting to harvesting. The goal is to enhance the overall supply chain traceability from field, to storage, to factory.

Biodiversity: AgGateway's European regional group is exploring the idea of supporting development of a technical network to automatically measure and monitor the level of insect biodiversity in fields.

Slaughter Results: AgGateway's Europe region is organizing interest to develop a standard for exchanging slaughter reports from slaughterhouses to farmers and accountancy, for broilers, pork and bovine animals. A first draft for such a standard is being developed by AgGateway's associate Dutch member AgroConnect, in cooperation with European industries.

… And Other Activities as initiated by AgGateway member companies.

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