2021 Award Nomination

Title of Innovation:
CartoPac Cathodic Protection

Nominee(s)
The American Innovations Team

Category:
(select one below)

Coatings and Linings	Instrumentation
<mark>Cathodic Protection</mark>	Testing
Materials Design	Modeling/Risk Assessment
Chemical Treatment	Other—fill in

Dates of Innovation Development:
(from February 2020 to November 2020)

Web site: aiworldwide.com

Summary Description:
CartoPac Cathodic Protection is our next-generation field data collection software used to perform periodic surveys, close-interval surveys, and general troubleshooting. When developing CartoPac Cathodic Protection our key objectives were focused on Increasing operational efficiency and maintaining data integrity. Users will see time savings since this software will facilitate performing close interval and periodic surveys and cost savings because it ensures data quality is preserved throughout the data lifecycle, from the point where it is captured to the final database of record thus reducing the chance of having to resurvey areas due to user errors or errors in data.

Full Description:

(Please provide complete answers to the questions below. Graphs, charts, and photos can be inserted to support the answers.)

1. What is the innovation?

CartoPac Cathodic Protection is our next-generation field data collection software used to perform periodic surveys, close-interval surveys, and general troubleshooting. With CartoPac Cathodic Protection users are guided through the process of performing cathodic protection surveys to ensure the data they are gathering is of the highest quality and accurate. This software is built upon 18 years of user feedback and has been tailored to improving the user experience of the cathodic protection professional and improve operational efficiency.

2. How does the innovation work?

After downloading a survey assignment CartoPac Cathodic Protection will guide a technician through the process of capturing the required fields to complete the survey. CartoPac Cathodic Protection has a wide set of features needed by cathodic protection professionals to complete their surveys such as:

- Viewing survey assets on a map to see asset statuses in context
- Ability to synchronize to interruptions schedules
- Capturing measurements directly from our DVMs to ensure data integrity
- Performing surveys with and without GPS synchronization
- Viewing and verifying waveforms to ensure an interruption program is working as expected.
- Creating surveys from CartoPac Cathodic Protection
- Authentication and user management to keep data secure
- Compatibility with PCS to get data to the database of record.
- Viewing most previous reading to see how survey data has changed over time.
- Capturing photos of assets to record asset conditions
- Utilizing 3rd party sub-meter GPS devices to gain highly accurate location data
- Connecting to an RFID pen and tags to verify you are capturing readings at the correct location.
- A refreshed user interface to optimize workflow
- And much more

3. Describe the corrosion problem or technological gap that sparked the development of the innovation. How does the innovation improve upon existing methods/technologies to address this corrosion problem or provide a new solution to bridge the technology gap?

Poor data quality destroys business value and results in millions of dollars in losses per year across the industry. When developing CartoPac Cathodic Protection our key objectives were centered around Increasing operational efficiency and maintaining data integrity. Operators using CartoPac Cathodic Protection have the tools to ensure data is accurately collected in the field, in-application indicators to know when a measurement is out of criteria and the ability to see historical data to see how corrosion prevention programs have changed over time. The future state of this software facilitates the ability to collaborate across teams and gain deeper insight on corrosion prevention programs.

4. Has the innovation been tested in the laboratory or in the field? If so, please describe any tests or field demonstrations and the results that support the capability and feasibility of the innovation.

CartoPac Cathodic Protection has gone through extensive unit level and system level testing as modules are developed. Our philosophy at American Innovations is that everyone in the organization is a Quality Assurance Engineer. Feedback is gathered from experienced and new users to gain fresh perspectives. We consult with industry experts to ensure we are adding features that the industry needs. Development is near completion and we are about to start full system field testing with internal and external stakeholders.

5. How can the innovation be incorporated into existing corrosion prevention and control activities and how does it benefit the industry/industries it serves (i.e., does it provide a cost and/or time savings; improve an inspection, testing, or data collection process; help to extend the service life of assets or corrosion-control systems, etc.)?

Operators who are conducting cathodic protection surveys will benefit from CartoPac Cathodic Protection. Users will see time savings since this software can speed up performing close interval and periodic surveys and cost savings because it ensures data quality is preserved throughout the data lifecycle, from the point where it is captured to the final database of record thus reducing the chance of having to resurvey areas due to user errors or errors in data.

6. Is the innovation commercially available? If yes, how long has it been utilized? If not, what is the next step in making the innovation commercially available? What are the challenges, if any, that may affect further development or use of this innovation and how could they be overcome?

CartoPac Cathodic Protection will be released November 2020. We are now concluding system integration and will be conducting field tests in October 2020. Like most software platform development does not stop after release. We will continue to refine, improve, and add new features based off user feedback. Our immediate roadmap is to offer data transfer over the cloud, multi-operating system support, and the ability to perform DCVG surveys.

7. Are there any patents related to this work? If yes, please provide the patent title, number, and inventor.

No.