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| Sponsor | Nominations must be submitted by an AASHTO member DOT willing to help promote the technology | 1. Sponsoring DOT (State): Colorado | | | | | |
| 1. Name and Title: Lekshmy Sankar, Manager Engineering Applications, CDOT | | | | | |
| Organization: CDOT | | | | | |
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| City:      Denver | | State: CO | | | Zipcode: 80222 |
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| 3. Is the sponsoring State DOT willing to promote this technology to other states by participating on a Lead States Team supported by the AASHTO Innovation Initiative? Yes or No: Yes | | | | | |
| **Technology Description (10 points)** | The term “technology” may include processes, products, techniques, procedures, and practices. | 4. Name of Technology: Integration of Site Inspection Application with AASHTOWare SiteManager | | | | | |
| 1. Please describe the technology.     CDOT has launched an eConstruction Pilot Program to evaluate hardware and software programs that have the propensity to automate highway construction processes, improve efficiencies, and reduce costs. Part of this initiative requires the integration of one program, HeadLight by Pavia Systems, with SiteManager. HeadLight is a site inspection solution that enables engineers and users to document, photograph, and record site information in the field that syncs with SiteManager. Leveraging this commercially available digital platform, CDOT created a front-end portal that presents the information in a unified window and extends CDOT’s eConstruction capabilities into the field. | | | | | |
| 6. If appropriate, please attach photographs, diagrams, or other images illustrating the appearance or functionality of the technology. (If electronic, please provide a separate file.) Please list your attachments here. | | | | | |
| **State of Development**  **(30 points)** | Technologies must be successfully deployed in at least one State DOT. The AII selection process will favor technologies that have advanced beyond the research stage, at least to the pilot deployment stage, and preferably into routine use. | 1. Briefly describe the history of its development.   Late 2015 signaled the advancement of eConstruction at CDOT. It also ushered in the USDOT’s five-year Intelligent Transportation System and FHWA’s EDC (Every Day Counts) initiatives and CDOT’s annual Leadership Forum where eConstruction was identified as a key objective in moving the agency towards a paperless environment. To achieve this, team members sought out leading edge solutions with a proven track record that could both improve and automate operations, integrate with SiteManager, enhance highway construction methods to meet the needs of the traveling public, and save taxpayer money. | | | | | |
| 1. For how long and in approximately how many applications has your State DOT used this technology?        This integration process is not in use yet; it is being piloted in the field on various statewide highway construction projects with the HeadLight site inspection application. | | | | | |
| 1. What additional development is necessary to enable routine deployment of the technology?        Final feedback on the eConstruction Pilot Program from participants and superusers. If the results are positive and achieve desired outcomes, CDOT will consider deploying this technology/method as standard operating procedure. | | | | | |
| 1. Have other organizations used this technology? Yes or No:       If so, please list organization names and contacts. Not sure if any other DOT has piloted the integration of HeadLight with SiteManager. | | | | | |
| Organization | Name | | Phone | E-mail | |
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| **Potential Payoff**  **(30 points)** | Payoff is defined as the combination of broad applicability and significant benefit or advantage over other currently available technologies. | 1. How does the technology meet customer or stakeholder needs in your State DOT or other organizations that have used it   HeadLight facilitates the recording of observations collected in the field and documentation of daily work reports. CDOT Project Inspectors and Project Engineers are required to document activities that occur on the job site including weather, safety, accidents, traffic control, changes, corrections, delays, rejections, etc. They are also required to document enforcement of governing specifications and special provisions, control of inspection, and preparation of change orders. Integration of HeadLight with SiteManager allows real-time entries in the field to sync with SiteManager, avoiding duplication of work and human resource cost savings. | | | | | |
| 12. What type and scale of benefits has your DOT realized from using this technology? Include cost savings, safety improvements, transportation efficiency or effectiveness, environmental benefits, or any other advantages over other existing technologies.       This technology/process is still in the pilot stage. CDOT anticipates implementing it once the pilot is complete, as it promises cost savings, improved efficiency, and a testing ground for other beneficial solutions used in the field on highway construction projects than can integrate with SiteManager. | | | | | |
| 1. Please describe the potential extent of implementation in terms of geography, organization type (including other branches of government and private industry) and size, or other relevant factors. How broadly might the technology be deployed?        CDOT is comprised of five (5) regions across the state of Colorado. A growing population, budgetary constraints and transportation needs are driving the agency to implement innovative solutions to improve the state’s infrastructure, methods of operation, and sharing of these solutions with other DOTs. | | | | | |
| **Market Readiness (30 points)** | The AII selection process will favor technologies that can be adopted with a reasonable amount of effort and cost, commensurate with the payoff potential. | 1. What actions would another organization need to take to adopt this technology?        Implementation of this technology (integration with AASHTOWare SiteManager) requires the following:   1. Change management strategy to convey the benefits of eConstruction methods to governmental agencies; 2. Buy-in and endorsement from leadership, sponsors, and stakeholders; 3. Commitment to eConstruction; 4. Open minds as this technology solution is a departure from normal business operations in many DOTs and requires a learning curve and allocation of time and resources. | | | | | |
| 1. What is the estimated cost, effort, and length of time required to deploy the technology in another organization?        For CDOT, the planning began in mid to late 2015; the development occurred in 2016, and full implementation took place late spring 2017. It is a 2-3 year project but can be fast-tracked if the organization is committed and all divisions and leadership endorse it. Costs are two-fold: cost of mobile devices and use of the application during the testing and pilot stage. CDOT received partial funding for the cost of the devices from a federal grant. | | | | | |
| 1. What resources—such as technical specifications, training materials, and user guides—are already available to assist deployment?        CDOT developed an integration and implementation plan, user guides, testing plans, and presentations. | | | | | |
| 1. What organizations currently supply and provide technical support for the technology?        HeadLight by Pavia Systems. | | | | | |
| 1. Please describe any legal, environmental, social, intellectual property, or other barriers that might affect ease of implementation.        The only barriers are resistance to change and a steep learning curve. | | | | | |
| ***Submit Completed form to*** | | ***[http://web.transportation.org/tig\_solicitation/Submit.aspx](http://transportation1.org/tig_solicitation/Submit.aspx)*** | | | | | |