

**AASHTO Technology Implementation Group**  
**Nomination of Technology Ready for Implementation**  
**2005 NOMINATIONS DUE BY FRIDAY, SEPTEMBER 9, 2005**

<b>Sponsoring DOT</b>	1. Sponsoring DOT (State): Pennsylvania Department of Transportation			
<b>Primary Technical Contact</b>	2. Name: Roger Apple			
	Organization: Bureau of Construction and Materials			
	Address: 1118 State Street, Box 2926			
	City: Harrisburg	State: PA	Zipcode: 17105	
	E-mail: rapple@state.pa.us	Phone: 717-787-4720	Fax: 717-783-5955	
<b>Technology Description</b>	3. Name of Technology: Aggregate Imaging System			
	4. Briefly describe the technology. The technology uses a video microscope, imaging-based technology to accurately and consistently identify aggregate characteristics such as angularity, shape and texture. Current methods for identifying these characteristics are labor intensive, subjective and limited in ability to consistently distinguish between angularity and texture. Accurate identification of these aggregate characteristics is important to the performance of the pavement systems in which the aggregates are used.			
	5. Briefly describe the history of its development. The technology was developed to measure characteristics of both coarse and fine aggregates. The equipment has been used by FHWA in a field laboratory and the Texas Department of Transportation in a central laboratory. It has also been used in several research studies sponsored by FHWA, TxDOT, Minnesota DOT and International Center for Aggregate Research. The technology was evaluated in NCHRP Project 4-30A, Test Methods for Characterizing Aggregate Shape, Texture and Angularity (May, 2005), and was the only system recommended for use with both coarse and fine aggregates.			
<b>State of Development</b>	6. For how long and in approximately how many applications has your organization used this technology? Our organization has not yet used the technology since the report on NCHRP Project 4-30A was finalized in May, 2005 and we have only recently received and reviewed the report and are extremely interested in applying this technology as a more accurate, consistent and automated method for determining aggregate characteristics.			
	7. What additional development is necessary to enable routine deployment of the technology? It appears from the NCHRP report that the technology is ready for deployment. The report indicates that the system was recently equipped with an automated control of the top lighting for texture analysis, a feature that significantly improved the repeatability and reproducibility of the system.			
	8. Have other organizations used this technology? If so, please list organization names and contacts.			
	Organization	Name	Phone	E-mail
	FHWA			
TxDOT				
MnDOT				
ICAR				
<b>Potential for Payoff</b>	9. What benefits has your organization realized from using this technology? Include cost savings, safety improvements, transportation efficiency or effectiveness, environmental benefits, or other advantages over other existing technologies. As mentioned above, our organization has not yet acquired this technology but plans to acquire the equipment before the end of 2005. This technology replaces tedious and subjective testing with automated and more accurate methods. The ability to better identify aggregate characteristics will result in improved performance of the pavements in which the aggregates are used.			

**AASHTO Technology Implementation Group  
Nomination of Technology Ready for Implementation  
2005 NOMINATIONS DUE BY FRIDAY, SEPTEMBER 9, 2005**

<b>Implementation Potential</b>	10. Please describe what actions another transportation agency would need to take to adopt this technology. The technology is essentially ready to be used. A transportation agency would need to purchase the equipment (current estimate is \$35,000) receive training on its use and then use the equipment in place of existing manual tests to identify aggregate characteristics.
	11. What is the estimated cost, effort, and length of time required for procurement or adoption by another transportation agency? The estimated cost of the equipment is \$35,000. Transportation agencies should be able to purchase the equipment immediately.
	12. What organization(s) currently supply and provide technical support for this technology? We do not currently have this information but are in the process of obtaining how the system can be procured.
	13. Please describe any legal, regulatory, social, intellectual property, or other issues that could affect ease of implementation. None known.
<b>Willingness to Champion</b>	14. Is the sponsoring DOT willing to promote this technology to other states, if partially supported by the AASHTO Task Force on Technology Implementation? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Date Submitted</b>	15. Date: 9/8/2005

16. Please include image(s) of sketches or photographs, if available  Image(s) are attached.\*

\*

<b>AASHTO CONTACT</b>	MARTY VITALE ADMINISTRATIVE COORDINATOR FOR ENGINEERING AASHTO	PHONE: 202.624.5862 FAX: 202.624.5469 <a href="mailto:mvitale@ashto.org">mvitale@ashto.org</a>
-----------------------	--	--