



# Meeting Minutes: NRRRA Intelligent Construction Technologies (ICT) Team (Meeting No. 6)

(Agency & Associate Member Meeting)

Date: February 7, 2019  
 Minutes prepared by: Rebecca Embacher  
 Location: Skype

## Attendance

### Agency Members

Participated	Affiliation	State Contact	e-mail
<input type="checkbox"/>	California	Deepak Maskey	<a href="mailto:deepak.maskey@dot.ca.gov">deepak.maskey@dot.ca.gov</a>
<input checked="" type="checkbox"/>	California	Ragu Thangavelautham	<a href="mailto:raguparan.thangavelautham@dot.ca.gov">raguparan.thangavelautham@dot.ca.gov</a>
<input checked="" type="checkbox"/>	Illinois	Brian Hill	<a href="mailto:Brian.Hill@illinois.gov">Brian.Hill@illinois.gov</a>
<input checked="" type="checkbox"/>	Minnesota	Rebecca Embacher	<a href="mailto:rebecca.embacher@state.mn.us">rebecca.embacher@state.mn.us</a>
<input checked="" type="checkbox"/>	Minnesota	Kyle Hoegh	<a href="mailto:kyle.hoegh@state.mn.us">kyle.hoegh@state.mn.us</a>
<input type="checkbox"/>	Missouri	Bill Stone	<a href="mailto:william.stone@modot.mo.gov">william.stone@modot.mo.gov</a>
<input type="checkbox"/>	Missouri	Dan Oesch	<a href="mailto:Daniel.Oesch@modot.mo.gov">Daniel.Oesch@modot.mo.gov</a>
<input type="checkbox"/>	North Dakota	Curt Dunn	<a href="mailto:cdunn@nd.gov">cdunn@nd.gov</a>
<input type="checkbox"/>	North Dakota	Amy Beise	<a href="mailto:abeise@nd.gov">abeise@nd.gov</a>

### Associate Members

Participated	Affiliation	Contact	e-mail
<input checked="" type="checkbox"/>	American Engineering and Testing, Inc.	Derek Tompkins	<a href="mailto:dtompkins@amengtest.com">dtompkins@amengtest.com</a>
<input type="checkbox"/>	Braun Intertec	Matt Oman	<a href="mailto:MOman@braunintertec.com">MOman@braunintertec.com</a>
<input type="checkbox"/>	Braun Intertec	Heidi Olson	<a href="mailto:holson@braunintertec.com">holson@braunintertec.com</a>
<input type="checkbox"/>	Caterpillar Global Paving	Bryan Downing	<a href="mailto:Downing_Bryan_J@cat.com">Downing_Bryan_J@cat.com</a>
<input type="checkbox"/>	Caterpillar Global Paving	Todd Mansell	<a href="mailto:mansell_todd_w@cat.com">mansell_todd_w@cat.com</a>
<input checked="" type="checkbox"/>	Concrete Paving Association	Matt Zeller	<a href="mailto:mjzeller@cpamn.com">mjzeller@cpamn.com</a>
<input checked="" type="checkbox"/>	The University of Texas at El Paso	Nazarian Soheil	<a href="mailto:nazarian@utep.edu">nazarian@utep.edu</a>
<input type="checkbox"/>	GSSI	Roger Roberts	<a href="mailto:roger@geophysical.com">roger@geophysical.com</a>
<input type="checkbox"/>	GSSI	Roger Sommerfeldt	<a href="mailto:sommerfeldtr@geophysical.com">sommerfeldtr@geophysical.com</a>
<input checked="" type="checkbox"/>	Infrasense	Ken Maser	<a href="mailto:kmaser@infrasense.com">kmaser@infrasense.com</a>



<input type="checkbox"/>	Leica Geosystems	Brad Adams	<a href="mailto:brad.adams@leicaus.com">brad.adams@leicaus.com</a>
<input checked="" type="checkbox"/>	Mathy Construction	Erv Dukatz	<a href="mailto:ervin.dukatz@mathy.com">ervin.dukatz@mathy.com</a>
<input type="checkbox"/>	Midstate Reclamation & Trucking, Inc.	Dan Schellhammer	<a href="mailto:dans@midstatecompanies.com">dans@midstatecompanies.com</a>
<input checked="" type="checkbox"/>	Midstate Reclamation & Trucking, Inc.	John Peterson	<a href="mailto:johnp@midstatecompanies.com">johnp@midstatecompanies.com</a>
<input checked="" type="checkbox"/>	Minnesota Asphalt Paving Association	Brandon Brever	<a href="mailto:bbrever@mnapa.org">bbrever@mnapa.org</a>
<input type="checkbox"/>	Moba	Paul Angerhofer	<a href="mailto:pangerhofer@moba.de">pangerhofer@moba.de</a>
<input checked="" type="checkbox"/>	The Transtec Group, Inc.	George Change	<a href="mailto:GKChang@TheTranstecGroup.com">GKChang@TheTranstecGroup.com</a>
<input type="checkbox"/>	Topcon Positioning Systems, Inc.	Evan Monroe	<a href="mailto:emonroe@topcon.com">emonroe@topcon.com</a>
<input type="checkbox"/>	Topcon Positioning Systems, Inc.	Jim Preston	<a href="mailto:jpreston@topcon.com">jpreston@topcon.com</a>
<input type="checkbox"/>	Trimble	Kevin Garcia	<a href="mailto:kevin_garcia@trimble.com">kevin_garcia@trimble.com</a>
<input type="checkbox"/>	Trimble	Devin Laubhan	<a href="mailto:devin_laubhan@trimble.com">devin_laubhan@trimble.com</a>
<input type="checkbox"/>	WSB & Associates, Inc.	Mike Rief	<a href="mailto:mrief@wsbeng.com">mrief@wsbeng.com</a>

## Friends

Participated	Affiliation	State Contact	e-mail
<input type="checkbox"/>	FHWA – MN	Kevin Kliethermes	<a href="mailto:Kevin.Kliethermes@dot.gov">Kevin.Kliethermes@dot.gov</a>
<input checked="" type="checkbox"/>	Minnesota	Curt Turgeon	<a href="mailto:curt.turgeon@state.mn.us">curt.turgeon@state.mn.us</a>
<input type="checkbox"/>	Minnesota	Ben Worel	<a href="mailto:ben.worel@state.mn.us">ben.worel@state.mn.us</a>
<input type="checkbox"/>	Minnesota	Bob Flipczak	<a href="mailto:robert.filipczak@state.mn.us">robert.filipczak@state.mn.us</a>
<input type="checkbox"/>	Minnesota	Dave Van Deusen	<a href="mailto:dave.vandeusen@state.mn.us">dave.vandeusen@state.mn.us</a>
<input type="checkbox"/>	Minnesota	Shongtao Dai	<a href="mailto:shongtao.dai@state.mn.us">shongtao.dai@state.mn.us</a>
<input type="checkbox"/>	North Dakota	Jordan Nehls	
<input type="checkbox"/>	North Dakota	Darin Lindblom	
<input type="checkbox"/>	North Dakota	Carey Schreiner	

Other Attendees: David Shelstad (Moba)

## Decisions Made

- None at this time.



## Action items

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- NRRRA ICT Team | Send Embacher breakout topic ideas for NRRRA Pavement Workshop.
- NRRRA ICT Team | Review BIM for Pavements Workshop agenda and send any recommendations and/or comments to Embacher.
- Embacher | Let technical liaison (TL) for seismic project know that Hoegh and Maser are interested in participating on technical advisory panel (TAP).

## Agenda

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- Project Updates
- Draft Agenda for BIM for Pavements Workshop
- NRRRA Workshop Presentations
- August NCAT Demonstration Project

## Next Meeting

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Date: April 4, 2019

Time: 10:30-11:30AM Central Time

Location: Skype

*(no conference call will be used; skype audio is also available via smart phone application if needed)*

Agenda items: TBD

## Meeting Notes

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### New Associate Members

(Filipczak)

Wisconsin Concrete Paving Association and the National Asphalt Paving Association have recently joined NRRRA as associate members.

### Project Updates

(Embacher / Worel)

Provided update on the following projects.



*Ideascale No. 236 Evaluation of Levels 3-4 Intelligent Compaction Measurement Values for Soils Subgrade and Aggregate Subbase Compaction*

Contract Paper Work Started: Scope of Work, Schedule, Budget, Single Source Form; documentation needs to be submitted to research services.

*Ideascale No. 235 Analysis of Dielectric Constant Data in Veta*

Contract paper work completed, included with TPF-5 (334) Amendment number 2 contract. Contract is in signature phase.

*Ideascale No. 268 HD and VHD Seismic Approaches for Roadway Evaluation*

RFP paper work being compiled.

**Draft Agenda for BIM for Pavements Workshop**

(Embacher)

Discussed draft workshop agenda. Requested team to review and provide any comments back as soon as possible.

08:00 AM – 09:30 AM	Session 1 – Welcome and BIM Overview
09:30 AM – 10:00 AM	Break / Vendor Exhibits
10:00 AM – 12:00 PM	Session 2 – 3D Design
12:00 AM – 1:00 PM	Lunch / Vendor Exhibits
1:00 PM – 2:30 PM	Session 3 – Construction / e-Construction
2:30 PM – 3:00 PM	Break / Vendor Exhibits
3:00 PM – 5:00 PM	Session 4 – BIM State Experience and Open Panel Discussion
5:00 PM – 5:10 PM	Closing

<b>Session 1 – Welcome and BIM Overview</b>		<b>Moderator: TBD</b>
08:00 AM – 08:10 AM	Welcome	
08:10 AM – 08:45 AM	Overview of BIM, Overall Aspects of Program, State Implementation Plans TBD, FHWA	
08:45 AM – 09:30 AM	AASHTO Perspective TBD	
09:30 AM – 10:00 AM	Break / Vendor Exhibits	



<b>Session 2 – 3D Design</b>		<b>Moderator: TBD</b>
10:00 AM – 11:00 AM	BIM Delivery: Life Cycle from asset management to construction (includes e-construction)	TBD, State DOT
11:00 AM – 12:00 PM	3D Design Packages (includes contract digital plans / signatures)	TBD, State DOT
12:00 AM – 1:00 PM	Lunch / Vendor Exhibits	
<b>Session 3 – Construction / e-Construction</b>		<b>Moderator: TBD</b>
01:00 PM – 01:30PM	Vendor, TBD	
01:30 PM – 02:00 PM	Vendor, TBD	
02:00 PM – 02:30 PM	Vendor, TBD	
02:30 PM – 03:00 PM	Break / Vendor Exhibits	
<b>Session 4 – BIM State Experience and Open Panel Discussion</b>		<b>Moderator: TBD</b>
03:00 PM – 04:30 PM	State DOT	TBD
03:30 PM – 04:00 PM	State DOT	TBD
04:00 PM – 04:30 PM	State DOT	TBD
04:30 PM – 05:00 PM	Open Panel Discussion (State and Vendor Representatives)	
05:00 PM – 05:10 PM	Closing	TBD

**NRRRA Workshop in Minnesota (May 21 – 23, 2019)**

(Embacher / Worel)

- May 21 – BIM for Pavements (University of Minnesota – St Paul)
- May 22 – NRRRA Focus Workshop (City of Maple Grove, MnROAD tour, Reception)
  - Team Overviews (Team leads or designee)
  - Committee Breakout Topics Needed (due in March) – 1 hour/Team
- May 23 – NRRRA formal Conference (University of Minnesota – St Paul)
  - Committee Breakout Topics Needed (due in March) – 2 hour/Team



Possible ideas generated were:

### **March 22 | e-Ticketing Experience**

Iowa / North Dakota DOT?

Overview of technology, state experience (lesson's learned, benefits, specification requirements), future deployment roadmap

### **March 23 | Field Experience with Automated Machine Guidance and / or Veta Demonstration**

Milling, Paving, Excavation | Overview of technology, state experience (lesson's learned, benefits, specification requirements, etc.), deployment

Iowa DOT (Milling, Paving); MnDOT (Excavation and Milling); any other states with experience to possibly present?

Veta Demonstration | What can software currently do. Would be tied to IC and PMTP at this time. Dielectric data import, mapping and analysis a future task.

### **NCAT Demonstration Projects (70<sup>th</sup> and 80<sup>th</sup> Streets near MnROAD)**

(Embacher / Worel)

Focus on Building Information Modeling (BIM) as another focus of the demo projects. Ben will discuss the items below with the NCAT team.

- Creation of 3D Models.
- Inclusion of models as contract document and not through the reference information documents (RID). Would include a digital signature.
- Automated Machine Guidance – Milling Method (3D Milling)
- Automated Machine Guidance – Paving Method (3D Paving)
- E-Ticketing
- Paver Mounted Thermal Profiling
- Intelligent Compaction
- Dielectric Profile Method (equipment demonstrations by various vendors)
- High density of testing to assist with establishment of testing protocol for assistance with compliance with the 23 CFR 637 for the IC and PMTP technologies.