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**PROJECT TITLE:**

Implementation of Intelligent Compaction  
Technology for use in Queensland

**PROJECT LEADERS:**

Dr. Jeffrey Lee (ARRB) and Brian J Lowe (TMR)

**PROJECT STATUS:**

In Progress

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AN INITIATIVE BY:

The Queensland Department of Transport and Main  
Roads and the Australian Road Research Board

## PROJECT PURPOSE:

This project aims to explore and facilitate the adoption of Intelligent Compaction (IC) technology in Queensland for earthworks and pavement materials.

## BACKGROUND:

Compaction is one of the most important processes in roadway construction. Achieving adequate and uniform compaction of earthworks and pavement materials will ensure long-lasting performance of road infrastructure.

## APPROACH/METHODOLOGY:

### Year One Outputs (2019/2020)

- Literature review
- Intelligent Compaction Data Management (ICDM) workshop
- IC Webinar

### Year Two Outputs (2020/2021)

- Draft guideline for demonstration trial
- Engage industry group and equipment manufacturers for feedback
- Develop technical specification to conduct compaction auditing on a major TMR project
- Knowledge transfer (IC webinar)

## KEY PROJECT OUTCOMES:

To date, the project has resulted in:

- First industry workshop held in Queensland on Intelligent Compaction Data Management (ICDM) 2019, in collaboration with an expert from USA
- Project specific Technical Specification PSTS116 developed
- Utilising PSTS116 in the first major roadwork project using IC technology for compaction auditing at Ipswich Motorway Upgrade Project (March and August 2020)
- Collaboration with Logan City Council to implement IC technology on local roads
- Knowledge transfer activities (webinars)

## NEXT STEPS:

- Identify MRTS specification that can include IC technology
- Promote the use of IC technology in future use of road projects
- Collaborate with industry stakeholders to gain market acceptance in Australia
- Develop training materials for wider industry audiences
- Whole of life cycle assessment into the benefit of using IC

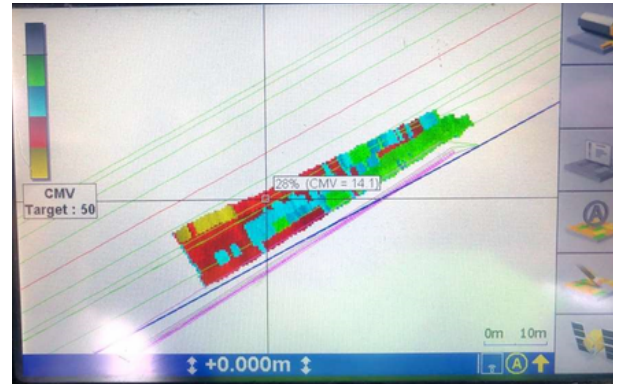
## IMAGES:



Fieldwork demonstration of Intelligent Compaction in Queensland



Trimble IC Retrofit Equipment



Roller operator's view of the Trimble tablet showing a CMV map of a recent compacted area

## WEBINARS:

NACOE Implementation of Intelligent Compaction in Queensland:

<https://attendee.gotowebinar.com/recording/116457381142437135>

Intelligent Compaction Webinar:

<https://attendee.gotowebinar.com/recording/1462516891451722754>

## REPORTS & PUBLICATIONS:

Introduction to Intelligent Compaction (IC) Webinar Slides:

[https://www.nacoe.com.au/wp-content/uploads/2021/02/ICwebinarNACOE200617\\_R2D\\_P105-Webinar-v4-for-approval.pdf](https://www.nacoe.com.au/wp-content/uploads/2021/02/ICwebinarNACOE200617_R2D_P105-Webinar-v4-for-approval.pdf)

Implementing Intelligent Compaction Technology for use in Queensland for Earth Fill, Granular and Stabilised Materials (Year 1 – 2018/19) – Literature Review:

[https://www.nacoe.com.au/wp-content/uploads/2020/12/014125\\_P105-Y1-Report-IC-for-soil\\_for-publication.pdf](https://www.nacoe.com.au/wp-content/uploads/2020/12/014125_P105-Y1-Report-IC-for-soil_for-publication.pdf)

NACOE-IC-Workshop-Tech-Brief:

<http://nacoe.com.au/wp-content/uploads/2019/07/NACOE-IC-Workshop-Tech-Brief.pdf>

Infrastructure Magazine Featured Article:

[https://issuu.com/monkeymediamagazines/docs/infrastructure\\_march\\_2021\\_web\\_1](https://issuu.com/monkeymediamagazines/docs/infrastructure_march_2021_web_1)