PT MULTIBANGUN REKATAMA PATRIA

*Geosynthetics Specialist*

# Seminar Invitation

## APPLICATION OF GEOGRID TECHNOLOGY FOR EMBANKMENT REINFORCEMENT AND MECHANICALLY STABILISED LAYERS FOR RAIL TRACKBED

Tensar®

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| Date | : | 13th April 2016 |
| Time | : | 8.00 - 13.30 |
| Place | : | Hotel Grandhika<br>Jl. Iskandarsyah Raya No. 65<br>Jakarta 12160 |
| Room | : | Grandwijaya |
| Speakers | : | • Michael J D Dobie<br>Regional Manager Asia Pacific<br>Tensar International Limited |

# Seminar Programme

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| 08.00 - 08.30 | Registration* and coffee break |
| 08.30 - 08.40 | Opening |
| 08.40 - 10.00 | Session 1 : **Reinforced soil** for trackside structures |
| 10.00 - 11.00 | Session 2 : **Mechanical stabilisation** to improve and prolong the life of the rail ballast and trackbed |
| 11.00 - 11.15 | Coffee break |
| 11.15 - 12.30 | Continuing Session 2 : **Mechanical stabilisation** to improve and prolong the life of the rail ballast and trackbed |
| 12.30 - 13.15 | Lunch |

* To the effectiveness of the delivery of content, participant is limited to 30 people only.

* Participants will acquire a softcopy certificate emailed to each participant.

**For registration, please contact :**

- Sandi (082110128965) or E-mail : sandi@multibangunpatria.co.id
- Astri (081317721939) or E-mail : astri@multibangunpatria.co.id

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# APPLICATION OF GEOGRID TECHNOLOGY FOR EMBANKMENT REINFORCEMENT AND MECHANICALLY STABILISED LAYERS FOR RAIL TRACKBED

## Outline

Geogrid technology is used widely in the development and maintenance of rail systems, which can be divided into two main applications:

> **Reinforced soil** for trackside structures such as retaining walls and steep slopes, and **Mechanical stabilisation** to improve and prolong the life of the rail ballast and trackbed.

The first part of the seminar will outline briefly the potential use of reinforced soil for structures either supporting or adjacent to the rail track, including the potential to repair unstable slopes. This will be illustrated by a number of case studies of structures built in conjunction with the development of new rail projects including examples from Indonesia, as well as the rehabilitation of existing rail track. There is more than 20 years experience of constructing geosynthetic reinforced soil strucutres in the development of infrastructure in Indonesia, where it is ideally suited to the wide variety of available soil types, the climate and the frequently onerous seismic design requirements.

The second, and main, part of the workshop will concentrate on an application of geogrid technology in rail projects which is less well known in Indonesia, namely for the mechanical stabilisation of the ballast or sub-ballast in order to improve the performance of the trackbed, with the aim of reducing maintenance and minimising speed restrictions. Although to date there is very little experience of using this technique in Indonesia, on a worldwide basis it is by now well understood and established. The first uses of mechanically stabilised rail ballast date back more than thirty years, when its use in projects indicated the potential for significant improvements in performance. This lead to extensive research in many countries, combined with increasing use of the technique by many railway authorities, such that by now, there is no doubt about the benefits. Research and investigation continues today, ranging from the test loading of full scale sections of track providing a comparison of controls with stabilised sections under laboratory conditions, to the use of "SmartRocks" which can establish the way ballast particles move as repeated loads are applied to a ballast layer. Mechanical stabilisation of trackbed can be provided at two levels, near its base, generally installed during initial construction beneath the sub-ballast, where the main aim is to provide improved support over soft subgrades. But more commonly it is installed within the ballast, generally during maintenance operations or reconstruction, to improve the performance and reduce grinding of the ballast. Whichever technique is used, there is one common aim: reduce running costs by increasing the interval between expensive maintenance operations.

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# Registration Form

PT. Multibangun Rekatama Patria & Tensar International Limited : Half Day Seminar on
**"APPLICATION OF GEOGRID TECHNOLOGY FOR EMBANKMENT REINFORCEMENT AND MECHANICALLY STABILISED LAYERS FOR RAIL TRACKBED"**
Date : 13th April 2016 (Wednesday, 8.00am - 13.30pm)

Contact Person & Designation : _____

Organisation & address : _____

Telephone No. & Fax No.: _____

Email Address.: _____

Signature

Complete Registration Form should be email to :
Sandi (sandi@multibangunpatria.co.id) Tel : 021-27881958 / 082110128965
Astri (astri@multibangunpatria.co.id) (081317721939)