

Group Discussion



GROUP 3:

Group Discussion



1. What do we find?

- General information
 - Outline of the project
 - Purpose
 - Contract
 - Contents of the project
- Actual situation
 - Construction technology, etc.
 - Project management technique
 - Problems
 - Etc.

2. What do we learn from the seminar?

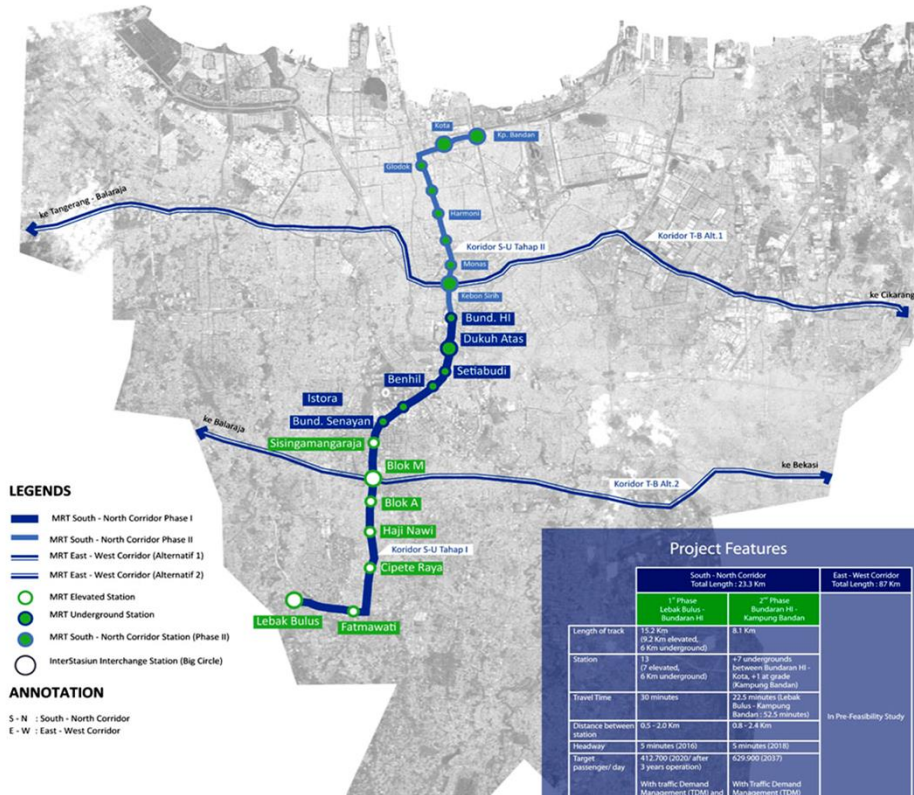
- What are important things to become the civil engineers who are responsible for the next generation?
- How can we utilize the knowledge and skills that you learnt from the seminar?

General Information

MRT Project



MRT Jakarta Future Network



LEGENDS

- MRT South - North Corridor Phase I
- MRT South - North Corridor Phase II
- MRT East - West Corridor (Alternatif 1)
- MRT East - West Corridor (Alternatif 2)
- MRT Elevated Station
- MRT Underground Station
- MRT South - North Corridor Station (Phase II)
- InterStasiun Interchange Station (Big Circle)

ANNOTATION

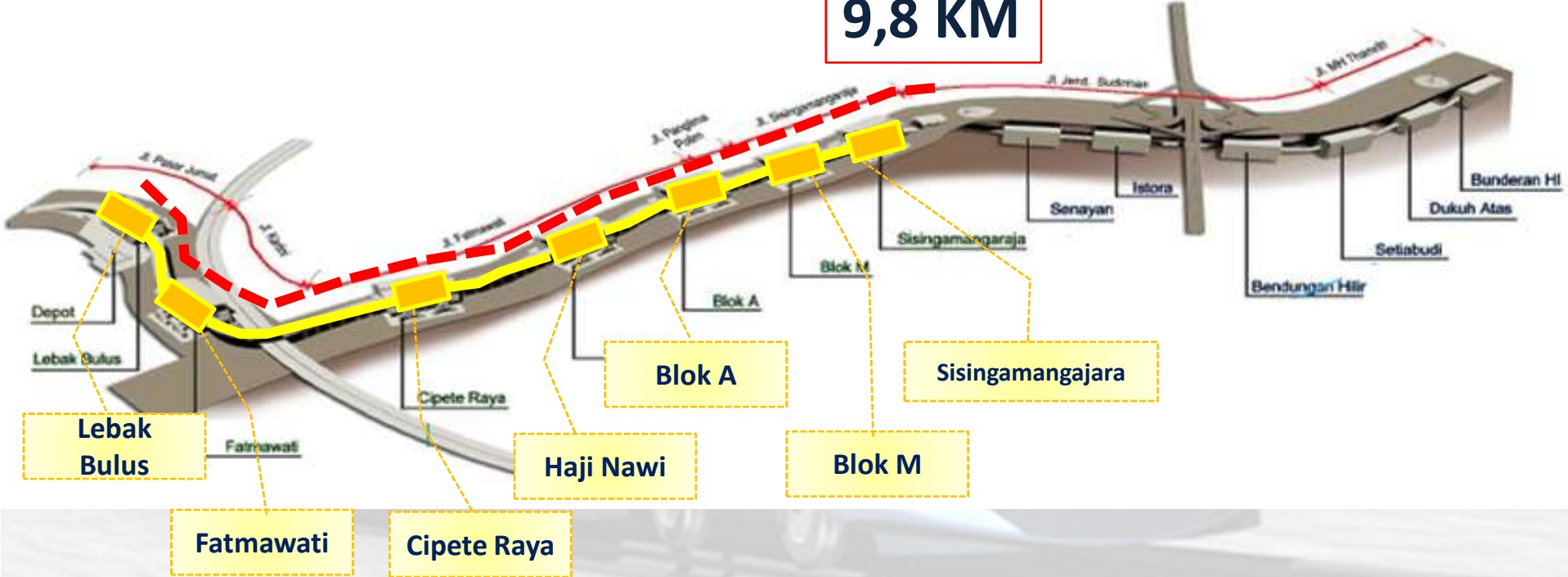
S - N : South - North Corridor
E - W : East - West Corridor

Project Features

	South - North Corridor Total Length: 23.3 Km		East - West Corridor Total Length: 17 Km
	1 st Phase Lebak Bulus - Bundaran HI	2 nd Phase Bundaran HI - Kampung Bandan	
Length of track	15.2 Km (9.2 Km elevated, 6 Km underground)	8.1 Km	In Pre-Feasibility Study
Station	13 (7 elevated, 6 Km underground)	+7 undergrounds between Bundaran HI - Koja, 1 lift grade (Kampung Bandan)	
Travel Time	30 minutes	22.5 minutes (Lebak Bulus - Kampung Bandan) (32.5 minutes)	
Distance between station	0.5 - 2.0 Km	0.8 - 2.4 Km	
Headway	5 minutes (D016)	5 minutes (D018)	
Target passenger/day	412,700 (2025) after 3 years operation	629,900 (2027)	
	With traffic Demand Management (TDM) and Transit Oriented Development (TOD)	With traffic Demand Management (TDM) and Transit Oriented Development (TOD)	
Operation Target	2016	2018	

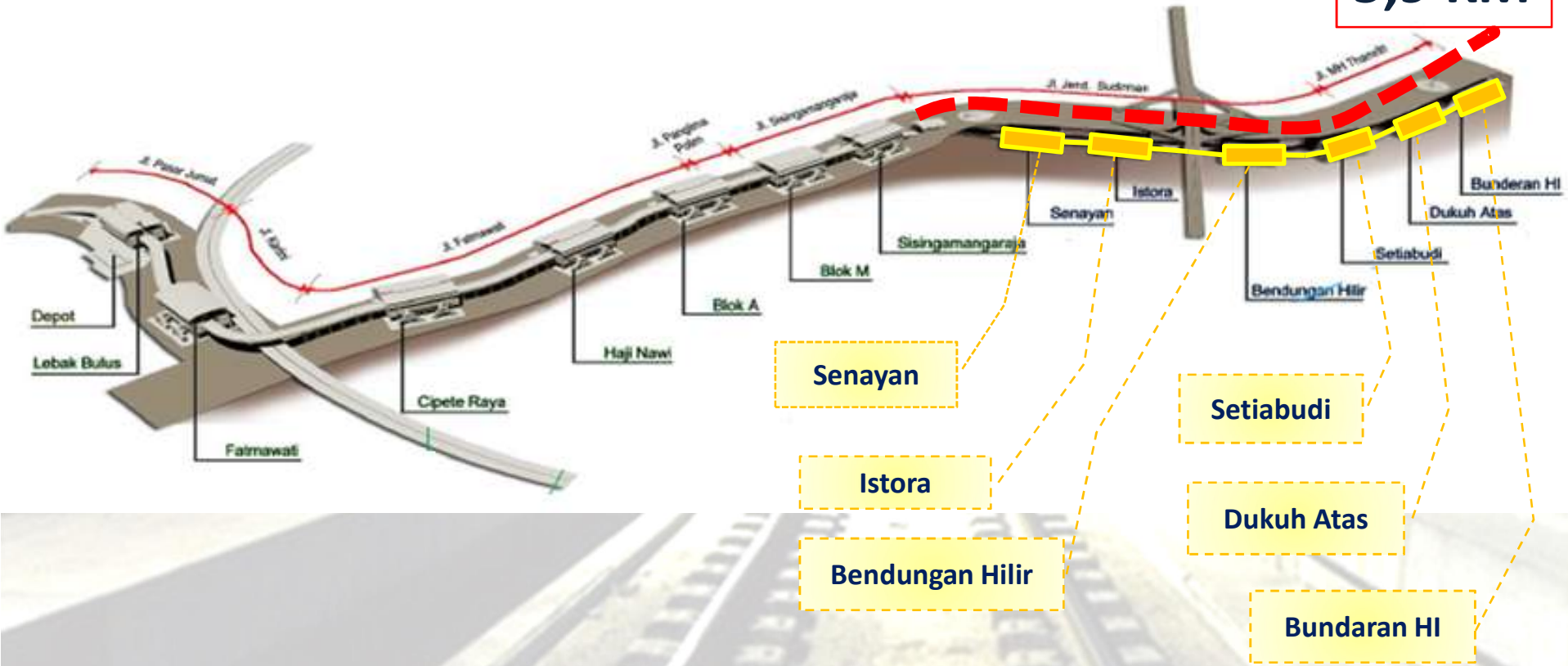
Elevated Section

9,8 KM



Underground Section

5,9 KM

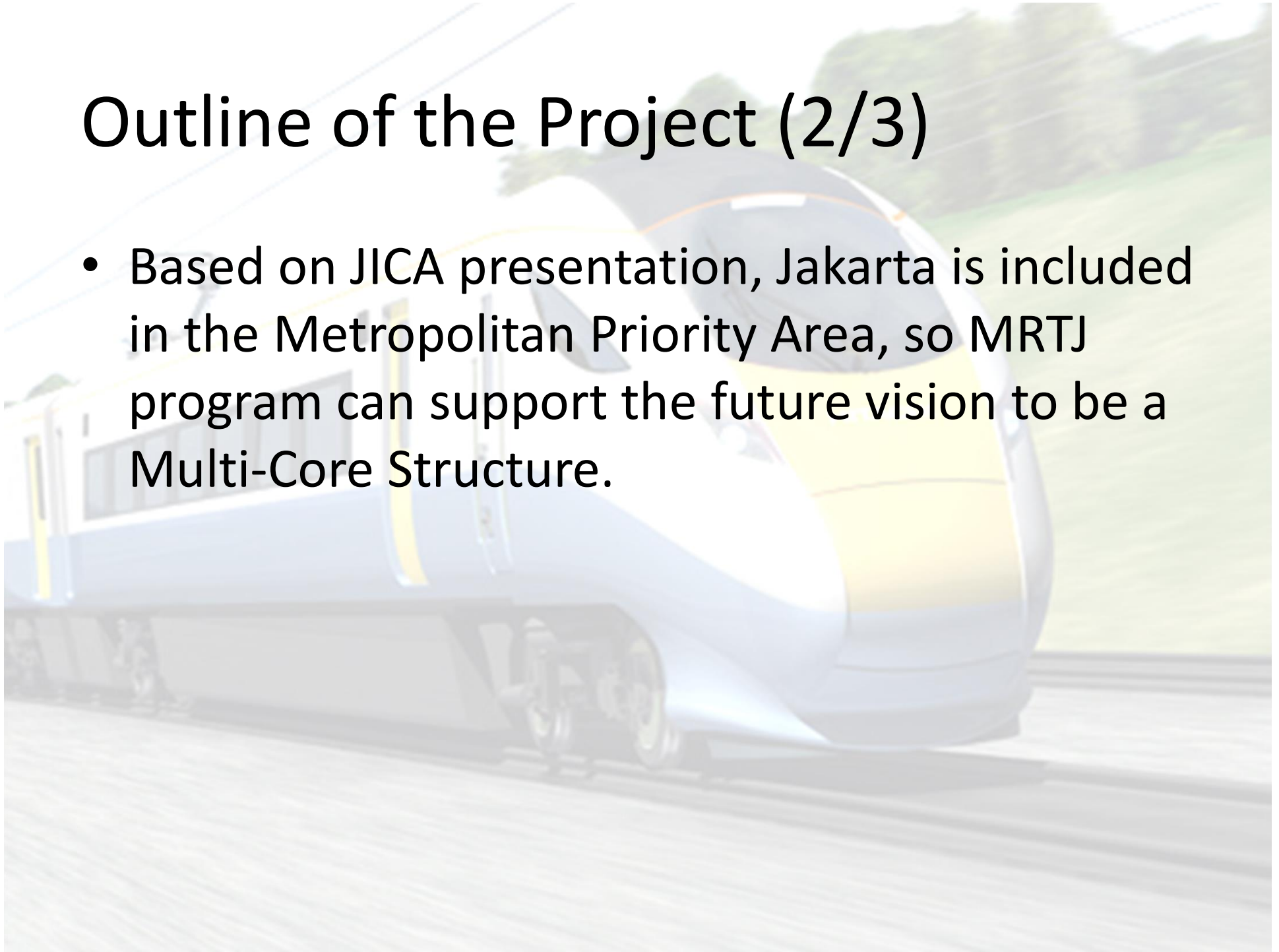


Outline of the Project (1/3)

- Jakarta is the important city in Indonesia because all of the critical activity happen in Jakarta. Beacause of the amount of people that live and work in Jakarta, It is need some infrastructure to support all of the activity.

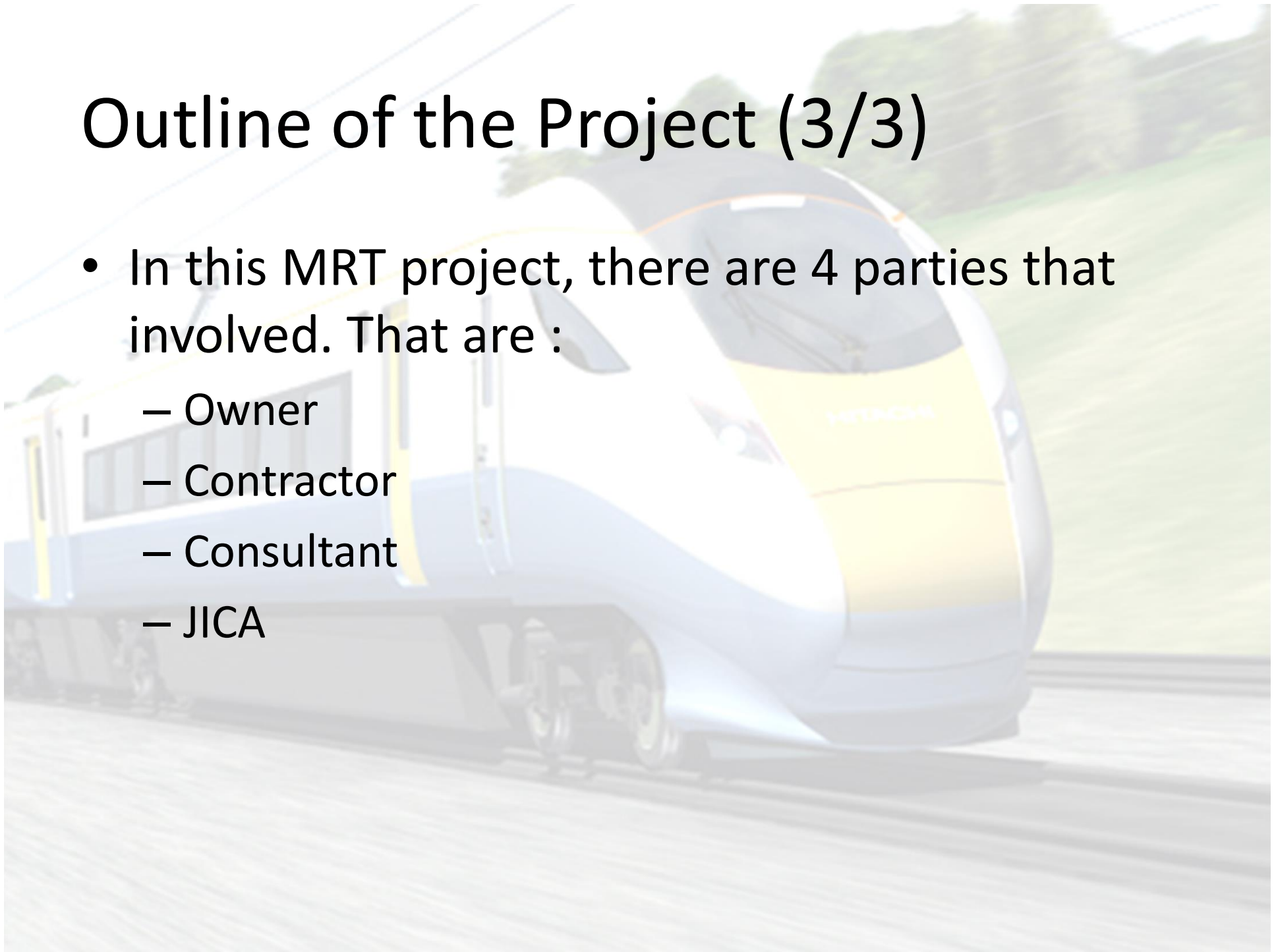
Outline of the Project (2/3)

- Based on JICA presentation, Jakarta is included in the Metropolitan Priority Area, so MRTJ program can support the future vision to be a Multi-Core Structure.



Outline of the Project (3/3)

- In this MRT project, there are 4 parties that involved. That are :
 - Owner
 - Contractor
 - Consultant
 - JICA



Purpose



- Changing the way of transportation
- Solve the traffic jam
- Reduce air pollution
- Transfer of knowledge between Local and Japanese Company
- Increase the economic growth in Jakarta

Contract



- Yellow Book
 - The owner already have the basic design and the contractor do the detail design and construction.
 - The owner choose “The Engineer” for assisting the project management.

Contents of the Project (1/2)



- There are 2 sections (phase 1)
- Elevated Section
 - 7 stations
 - 9.8 km
 - From Lebak Bulus to Sisingamangaraja
 - CP 101, 102, 103
- Underground Section
 - 6 stations
 - 5.9 km
 - From Senayan to Bunderan HI
 - CP 104, 105, 106

Contents of the Project (2/2)



- CP 101 & 102
 - Tokyu Const – Wijaya Karya
- CP 103
 - Obayashi – Shimizu – Jaya Konstruksi
- CP 104 & 105
 - Shimizu – Obayashi – Wijaya Karya – Jaya Konstruksi
- CP 106
 - Mitsui Sumitomo Const – Mitsubishi - Hutama Karya

Actual Situation

Construction Technology (1/2)

- Shield Tunneling Method
 - This method using Tunneling Boring Machine (TBM)
 - Dig soil by moving cutter
 - Construct segments around it
 - The machine moving forward and repeat the process



Construction Technology (2/2)

- Top Down Method
 - Construct the uderground station from the upper side
 - Construct D-Wall
 - First excavation to construct the Top Slab
 - Second excavation to construct the Concourse Slab
 - Third excavation to construct the Base Slab
 - Backfill

Project Management Technique



- The contractor and the Consultant use the same PMS (Project Management Software) to control the project.
- Use documentation to communicate with each other.
- Weekly and Monthly meeting for every parties that involve in MRT project.

Problems (1/3)

- Land acquisition
- Utility Relocation
- Change of Design
 - Change of government regulation
 - Change of seismic design
- Incorrect description in the tender document
 - The contractor proposing supporting system for the water pipe
- Change location of Cooling Tower/Ventilation

Problems (2/3)

Encountered Problem: Different Conditions of Water Pipe

[Tender Document Description]

Water Main $\phi 1600$

Pressure 0.3bar

Sleeve Pipe $\phi 2100$
(installed by the jacking method)

[Information from the Authority]

RC Pipe $\phi 2100$
(installed by the jacking method)

Pressure 1.5bar

Too much risky to expose water pipes!

Location Change of Ventilation/Cooling Towers

	Senayan	Istora
Original		
Latest		

Problems (3/3)



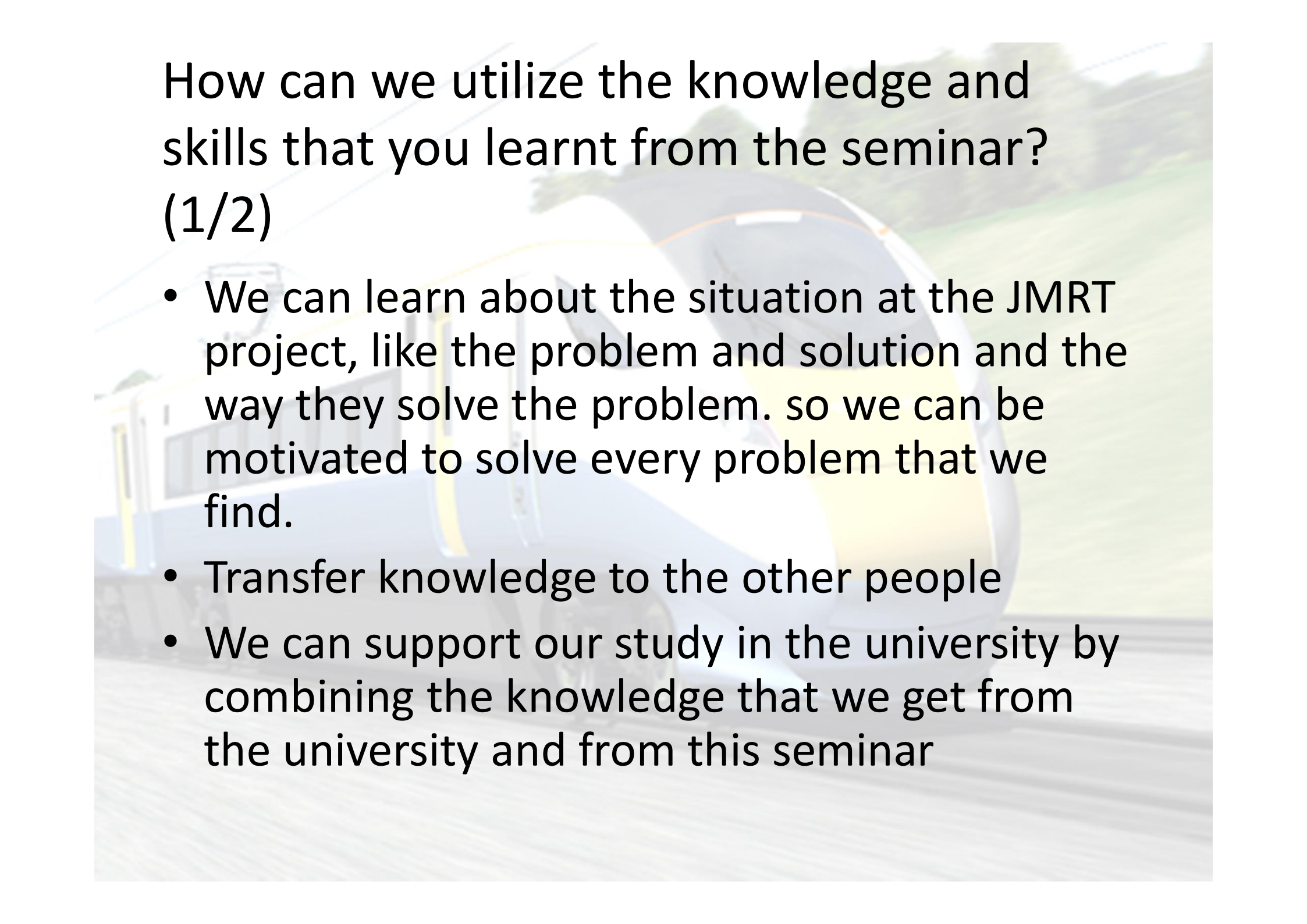
- DAB (Dispute Adjudication Board)
 - The third party to solve if there are some problem between the contractor and the owner in the process of construction.

What Do We Learn From This Seminar



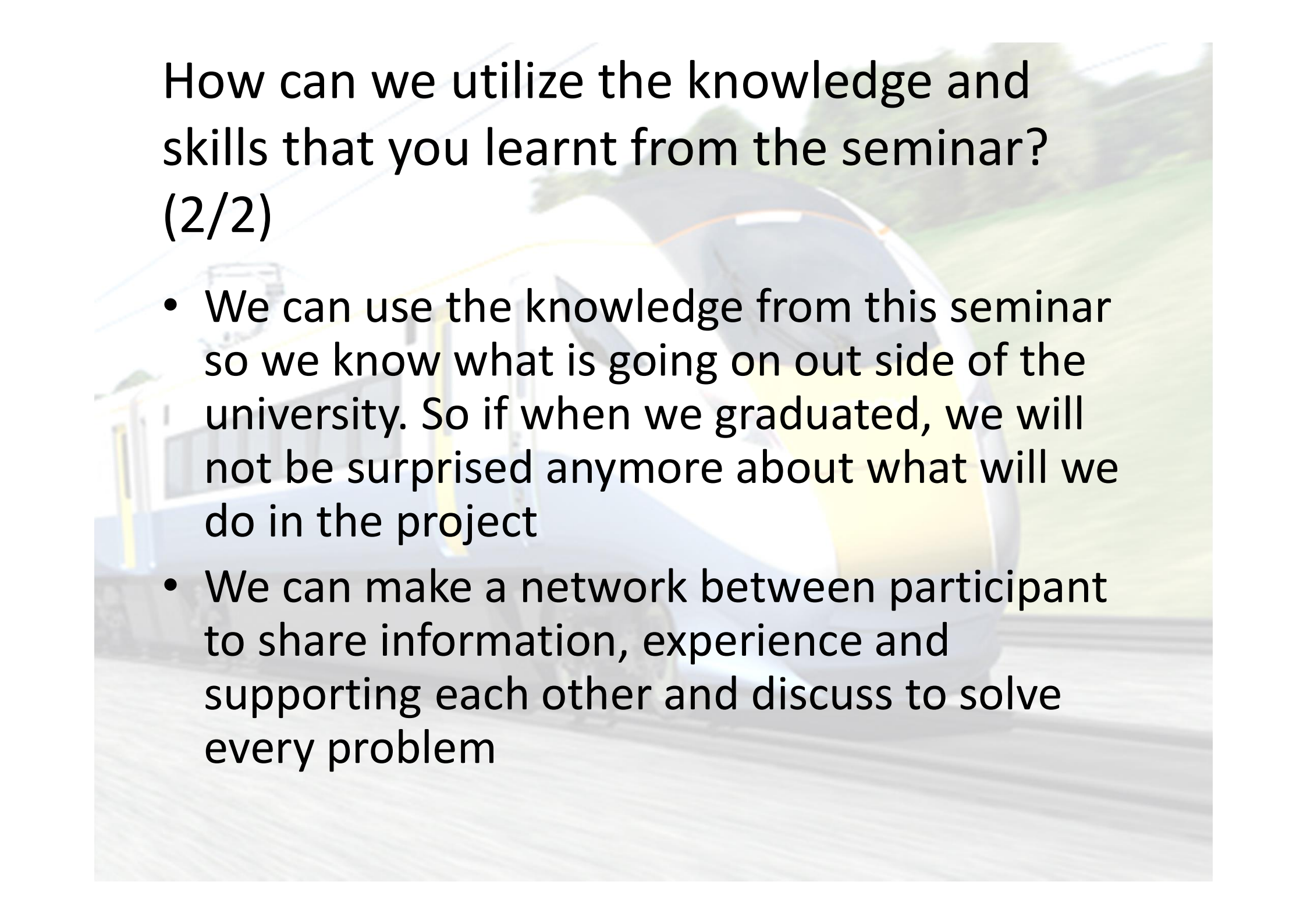
What are important things to become the civil engineers who are responsible for the next generation?

- We should know about other countries
 - Culture, social economy, environment
- We should be aware of sustainability to protect the environment
- We should be flexible to face the unpredictable change of the world
- We should think concentratively and integratively to find the best possibility to solve problem
- We should have responsibility as a representative from our country in everywhere



How can we utilize the knowledge and skills that you learnt from the seminar?
(1/2)

- We can learn about the situation at the JMRT project, like the problem and solution and the way they solve the problem. so we can be motivated to solve every problem that we find.
- Transfer knowledge to the other people
- We can support our study in the university by combining the knowledge that we get from the university and from this seminar



How can we utilize the knowledge and skills that you learnt from the seminar?
(2/2)

- We can use the knowledge from this seminar so we know what is going on outside of the university. So if when we graduated, we will not be surprised anymore about what we will do in the project
- We can make a network between participants to share information, experience and supporting each other and discuss to solve every problem



THANK YOU