

# National Rail & Transportation University

## Summary Update

17<sup>th</sup> Aug 2017



# Guiding Vision: Become a global, digitally enabled university within 10 years of set up

#1 university for **railway and transportation sector**



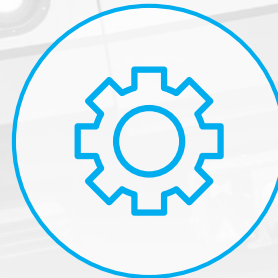
**Digitally enabled delivery of programs**

Resource pool for **best-in-class professionals** for Railways & Transportation sector



**Large scale platform for technical skill training and continuous learning**

**High-quality faculty and targeted research centre**



Institute **leveraging the capabilities** of the **private sector**

# Dual focus on higher education at University Campus and training & development at scale

## National Rail and Transportation University



**Under Graduate , Post Graduate programs and PhDs**

**Global collaborations** with academic institutes and industry partners

**Research & Development** focused on transport

Global faculty, **pedagogy embraces technology** such as 3D simulations and live classrooms

## Training and Development (T&D) centers of excellence



**Assessment certification**

**Skill development and training programs**

State-of-the-art technology enabled centres for **learning, testing and certification**

Catering to students and **local needs through the country**

# Joint Project team

## Leadership and Core Team

### Indian Railways

- **Chairman**, Railway Board
- **Member (Staff)**
- **Director General (Personnel)**
- **Additional Member (Staff)**
- **Advisor (Transformation)**
- **ED, Public Grievances**
- **OSD to Minister for Railways**

### McKinsey and 9.9

- **Dr. Pramath Sinha**  
(Project Director)
- **Suvojoy Sengupta, Suveer Sinha**  
(Jt. Project Directors)
- **Asheesh Gupta**  
(Higher Education Expert)
- **Saipriya Sarangan, Hemant Joshi**  
(Skills Experts)

IIR and Consultant  
Working Team

Global Panel of Experts

# Project kicked-off on May 25, 2017; Design and DPR getting completed

We are here

## Phase 1 (Design)

- Location assessment and infrastructure requirements for University and T&D centers
- Academic plan for university and T&D
- Financial plan
- Submit DPR to MHRD

## Phase 2 (Prepare)

- Setup university structure
- Recruit key officers and faculty
- Establish initial teaching infrastructure
- Develop curriculum
- Setup enrolment policy

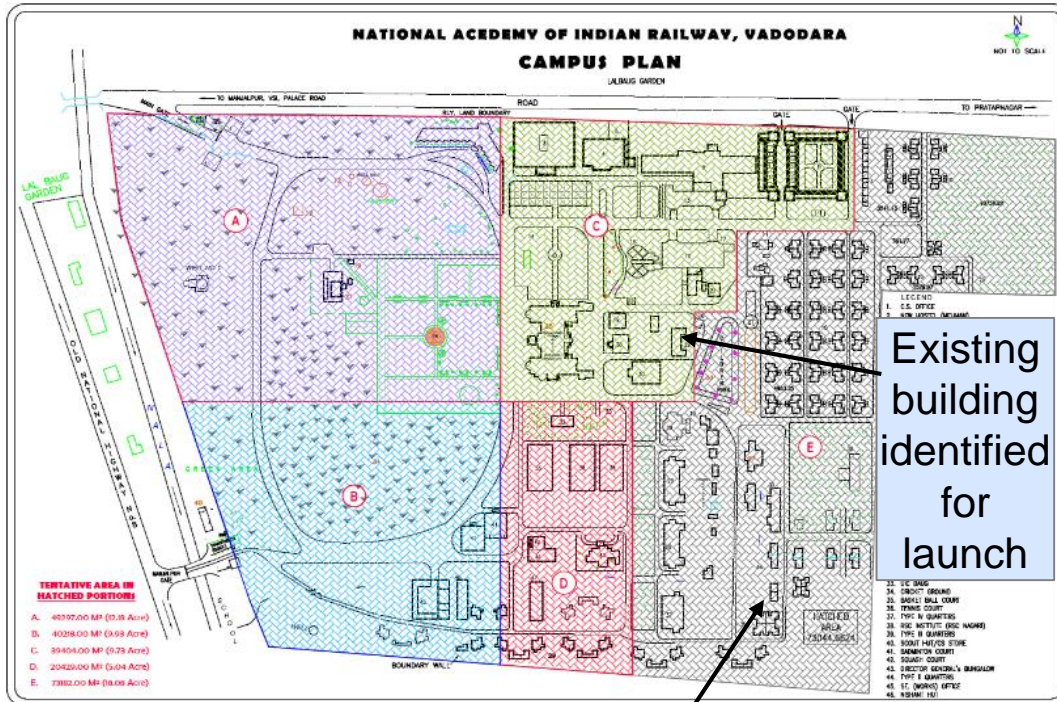
## Phase 3 (Launch)

- Drive faculty recruitment
- Admit/enroll students
- Continue program management

- Start of T&D programs at university targeted for H2 2018
- Start of Academic (degree) programs at University targeted for Academic Year beginning 2019



# Location assessment conducted by joint team; start planned at NAIR campus, Baroda



Area recommended by Railways to be used in initial phase of University

- Total area = 55 acres
  - 15 acres used by NAIR
  - Full campus sufficient for ~ 4-5,000 students
  - Under construction “new classroom building” to be earmarked for NRTU

# Academic Planning for the University

## Expert panel



**BN Jain**

Professor,  
IIT Delhi  
Former VC, BITS  
Pilani



**Dheeraj  
Sanghi**

Professor, IIT  
Kanpur & IIIT  
Delhi



**Pankaj  
Jalote**

Director and  
Professor, IIIT  
Delhi



**M Balakrishnan**

Professor and  
Deputy Director,  
IIT Delhi



**Milind  
Sohoni**

Professor and  
Senior Associate  
Dean, ISB

## Key ideas

- Consider starting with Post Graduate programs
- Offer broad based Under Graduate programs to ensure robust foundation
- Focus on interdisciplinary topics for Post Graduate programs and research
- Partner with leading Indian and international universities

# Post graduate programs to be considered for NRTU

NOT EXHAUSTIVE

## Engineering & Applied Sciences

- Civil & Environmental Engineering
- Railway & Mechanical Engineering
- Railway Systems Engineering
- Vehicle Operation Engineering
- Highway and Railway Engineering
- Logistics Management & Engineering
- Sustainable Energy Engineering
- Traffic & Transportation Engineering
- Industrial Engineering & Operations Research
- Data Science & Computer Engineering

## Humanities, Arts & Social Sciences

- Economics & Public Policy
- Renewable Energy & Transportation

## Architecture & Planning

- City & Regional Planning
- Infrastructure Planning & Management

## Design

- Sustainable Infrastructure Design

## Business

- Logistics & Supply Chain Management
- Information Systems Management
- Railway Risk & Safety Management

## Law

- Environmental & Labour Law

## Inter-disciplinary

- Policy Analysis & Management
- Sustainable Transportation
- Transport Technology & Economics

**NRTU to create inter-disciplinary Centres of Excellence to integrate postgraduate programs and relevant research areas.** E.g. Master's in Railway Systems Integration at University of Birmingham integrates research on technical, social or economic issues in railway industry, through the department of Civil Engineering and Centre for Railway Research & Education



# Programs for launch of T&D Centers in 2018 are being identified based on their impact (scale and visibility)

<u>Program</u>	<u>Description</u>	<u>Example of Target Audience</u>
1 <b>Service Operations</b>	Enhance overall customer service <i>experience while ensuring operational efficiency</i>	200,000+ customer facing employees (TTEs, booking clerks, station masters etc)
2 <b>Faculty Development</b>	The technical and behavioral skills to develop and teach courses	20-25 officers seconded to CTIs as faculty <i>multiplier effect on all officer trainings</i>
3 <b>Business Analytics</b>	Management and analyses of data to draw and communicate insights	~11,000 Group A and Group B officers
4 <b>Talent Management</b>	Skills, tools and mindsets for officers to manage large and diverse teams	~2,500 officer moving to SS rank and LDC Group B officers

# The University plans to deploy intelligent technology in all key areas

## Enhancing students' learning experience

- **Learning management system**
- **eLibrary (books, lectures)**
- **Student community tools**
- **Live classrooms**
- **Data Analytics & visualization**

## Aiding pedagogy and teaching for teachers

- **Learning and content management system** (to aid Flipped Classrooms)
- **Research tools**
- **Testing and Assessments**
- **Simulations**

## Engaging external stakeholders

- **Alumni relations**
- **School engagement**
- **Social media and web integration**

## Improving operating efficiency

- **University ERP**
- **Infrastructure**

# Draft budget estimate for first 5 years

	<u>Particular</u>	<u>Outlay (INR Cr.)</u>
University	Opex	210
	Fee revenue	(194)
	Capex	270-300
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T&D	Capex and Opex outlay	250-280
<b>Total investment including Opex and Capex</b>		<b>~600</b>

- Assumes ramping up to 1400 students at the University campus, and 300 training centres to be operational
- ~4 cr. required till March 2018 for startup

# Next steps

- Creation of section 8 company for setting up University
- DPR submission, and approval by MHRD & UGC
- Funding (approx. Rs. 4 Cr) for target launch of training and development programs in 2018
- Earmark land and new building at NAIR, Baroda for NRTU