Email: contact@groupi2r.com



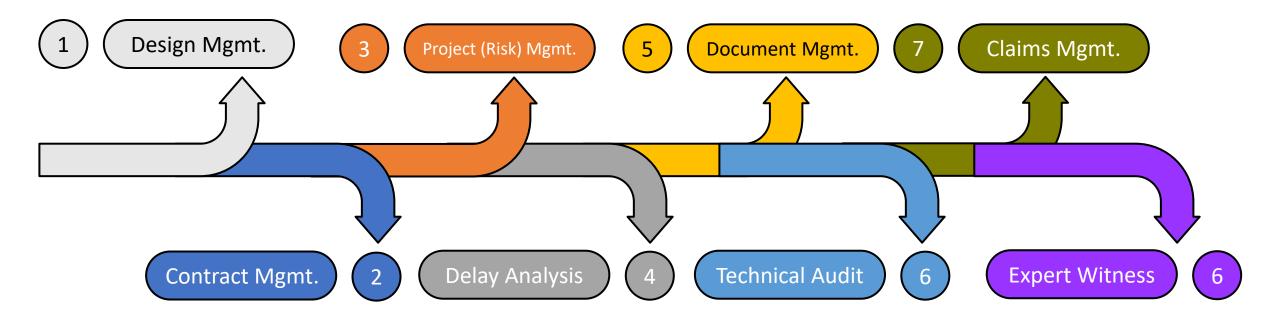
#### **ABOUT i2R**



**i2R CONSULTING** is established to provide specialized services to the Construction and Engineering sector. We have projects pan India and South Asia.

We decode the complexity of the project to manage the risk, mitigation, uncertainty, and disputes so as to achieve the best possible outcomes for our Clients all the time.

Clients Leveraged expertise of i2R To Support their Legal Teams and To Close Contractual Issues Faster, thereby greatly improving the Project Economics

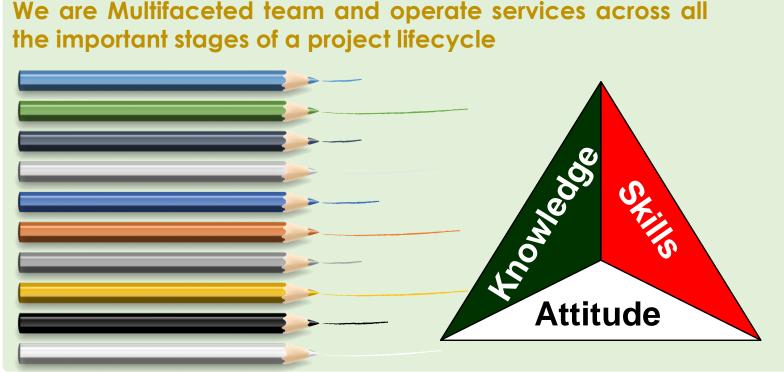


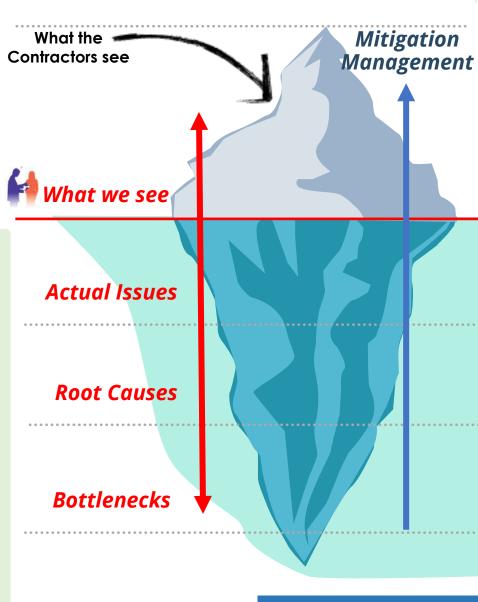
- > Area of expertise include metro rail & railways, roads/highways and urban infrastructure.
- > Competent team > 500 years cumulative experience in the mentioned services put together.
- Involved in projects worth more than USD 4400 million
- Handled more than 4600 km of highways.

#### WHAT i2R CAN DO FOR YOU

A fundamental strength of i2R Consulting is that we deliver high-quality services which account for our clients' operational and commercial priorities benefiting them to maximise their profitability.

The contractors and the construction specialist firms can call on us to secure their interests.





#### i2R's - Need Of Hour

R

i2R comprises of highly qualified professionals who has rich expertise in domain knowledge and offer specialized services in the areas of Contract Management, Project Claims, Detailed Designs and Project Management.

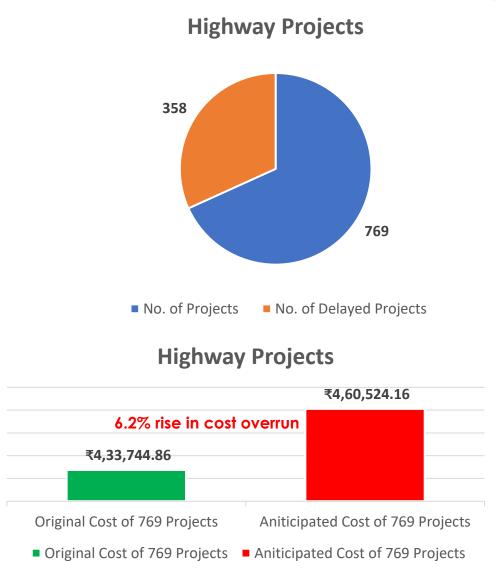
i2R has created its niche by providing quality services with excellent turnaround time, competitive fees, and maximum client/partner attention on each of the project issues.

i2R brings a cumulative experience of more than 500 years of technocommercial experience which helps its client on resolving the contractual issues and minimize the delay of the projects.

A recent article was published (\pm link below \pm) by the Govt. Of India that from the transport and highways sector has seen maximum number of delayed projects.

https://www.livemint.com/news/india/transport-ministry-has-maximum-delayed-projects-govt-report-11671944667575.html

Having a team such as i2R by the Clients side, allows to concentrate on execution, while i2R manages all the required paperwork.



#### **OUR MANAGEMENT TEAM**





- Krishna is the Founder & Director of i2R Consulting Pvt. Ltd. He has 28 years of experience in Infrastructure Sector.
- > He worked as a CEO for an Indian subsidiary and later headed one of its Business Lines for international operations, based out of Head Quarters in France.
- His experience includes management, planning, design and construction supervision of very large / complex and challenging projects in Infrastructure, more specifically in transport Infrastructure



- > Vincent a graduate from the French Ecole Polytechnique and from Ecole Nationale de l'Aeronautique et de l'Espace.
- ➤ He has 27 years of experience in Infrastructure Engineering in India and overseas.
- Managed international subsidiaries of French Infrastructure Majors like Veolia, Egis and APAVE.
- ➤ Hands-on experience in O&M of Infrastructure in Europe and Middle East.



- Ramlal a masters in Civil Engineering from NITW and PG Diploma in Alternate Dispute Resolution from NALSAR
- > 28 years of Professional Experience in Construction and Management in India and Overseas
- An expert in Contract Management, especially in Infrastructure with PPP, EPC and FIDIC forms of contract.
- > Hands on experience in dispute resolution for contracts in India and abroad



- > Pattabhiram a postgraduate in Transportation Engineering with 27 years of Experience in Design and Construction of Roads in India and overseas.
- Is a certified PMP
- Managed design of more than 8,000 lane km of NHs/SHs and 1,200 km of Access controlled Expressways
- > Developed many applications in the field of Civil Engineering problems including Software for Complete Geometric Design of Highway (VS ROAD)

#### **OUR MANAGEMENT TEAM**





- Bhaskar Rao a power sector professional with more than 39 years experience in management, planning & construction of large & complex power projects (both Coal & Gas based thermal projects executed by NTPC) of 200 and 500 MW capacities
- Worked in various capacities as Execution Engineer, Project Manager, O&M Manger and General Manager in NTPC
- Also, involved in Execution and commissioning of power projects at Senegal in West Africa.



- Srinivas Sarma a masters in Transportation Engineering from NIT-Warangal
- Over 30 years of Professional Experience in Construction and Management
- Served in Indian Railways, Chennai Metro and Nagpur Metro rail projects
- An expert in Project management, Contract Management, System Integration & Interface Management and Track works including Ballast less track forms



- Ilangovan has over 38 years' experience in Buildings, Metro Rail and Road projects.
- > An expert in project execution and contract management.
- Associated with the Mumbai Metro One Pvt. Ltd., for the Implementation of contract for 12 metro stations.
- Worked on Chennai Metro Project

#### **OUR TEAM & VALUES**







- Accountability by acknowledging and assuming complete ownership for our actions, services, decisions;
- Innovation by continually questioning assumptions, perusing details and pursuing new creative ideas to achieve excellence and add value to our clients;
- Empowerment by encouraging employees to take initiative and give the best by adopting an errorembracing environment; and
- > Building strong relationships through openness, honesty, respect, collaboration and cooperation for our colleagues, our clients and associates.

#### A FEW OF OUR CUSTOMERS

























**KNR Projects VRC Construction** 



































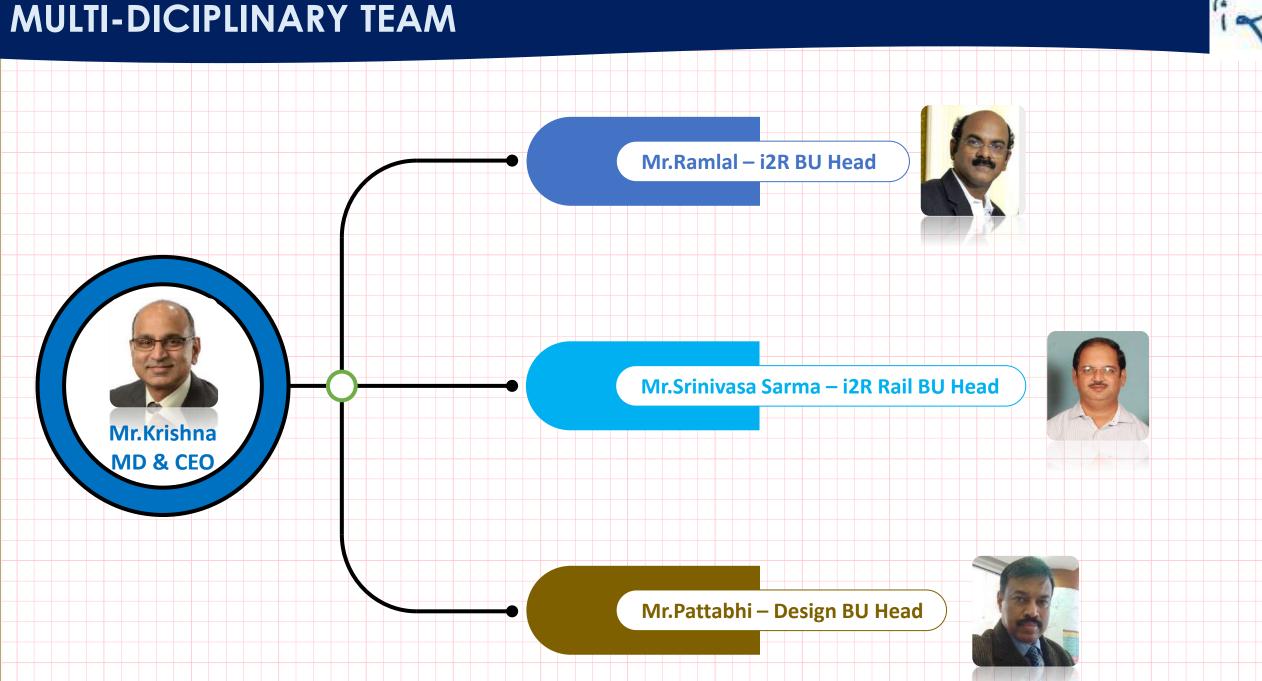








### **MULTI-DICIPLINARY TEAM**



#### **OUR SERVICES** DESIGN SERVICES THROUGH OUR SUBSIDERY DRUTA DESIGNS



- > Feasibility
- Detailed Project Report
- Pre-bid Advisory Services
- Design Review and Proof Checking
- ➤ Life Cycle Costing
- Post Bid Services

- Road Cross sections
- Quantity Estimation
- > 3D Modelling
- > As-Built



i2R's team has right people for the scope, and our specialized professionals are dedicated to resolve the contract related issues pertaining to the given Agreement be it EPC, BOT, HAM etc.

At i2R the team is constantly updated with the various happenings in the industry, case studies, ministry circulars etc.

We have several and successful Arbitration Awards in our portfolio.

We are committed to provide high quality & cost-effective services with reasonable timelines to our Clients.

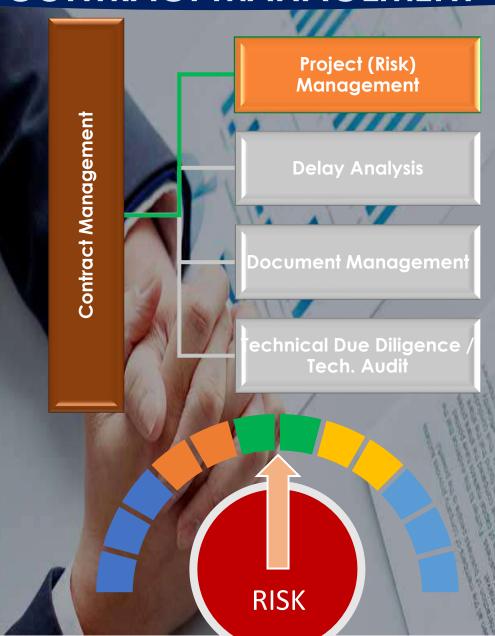
We take pride in the fact that most of our Clients end up being "Repeat Clients – a testimony for the trust developed on us forl their Contract & Claims Management issues.

#### **Contract Management**

- ✓ Day-to-day contract administration with Engineer and the Authority.
- ✓ Constant monitoring of projects
- ✓ Identify probable bottlenecks & suggest solutions
- ✓ Resolve contractual issues
- ✓ Draft correspondences with stakeholders
- ✓ Analyze issues & recommend suitable responses
- ✓ Review the correspondence & prepare appropriate cases
- ✓ Assist in streamlining the Contract Administration
- ✓ Liaise with legal consultants and the Authorities.
- ✓ Monthly Progress Reports.







#### **Project Risk Management**

- ✓ Construction Methodology
- ✓ Baseline Program (BSLP)
- ✓ Check the submitted BSLP using the standard assessment
- ✓ Identification & quantification of project bottlenecks
- ✓ Impacted program
- ✓ Extension of time program
- ✓ Time & Cost Delay Analysis (excludes forensic delay analysis).
- ✓ Tracking of the Baseline program. Electronic Documentation Management (E-DMS)
- ✓ Monthly Progress Reports.
- ✓ Program of works (PoW)
- ✓ Strip Plans
- ✓ MIS Reporting
- ✓ Risk evaluation
- ✓ Stating effective measures of Risk control
- ✓ Monitoring of risk factors





#### **Delay Analysis**

Projects often suffer from delays due to a wide variety of reasons, which has severe financial impact.

The analysis of the delay impact, the causes, and effects of the delaying activities is one of the most complicated types of claims analysis.

It requires an expert like i2R which has extensive knowledge of construction projects, means and methods, scheduling, and the ability to develop a sound methodology to conduct the analysis.

- @ i2R, we follow the following internationally acclaimed and accepted methods based on the available data from the Client.
- ✓Impacted-As-Planned (IAP) Analysis
- ✓Time Impact Analysis (TIA)
- ✓ As Planned Vs As Built Analysis (APAB)





#### **Document Management**

Contracting companies face issues on documents tracing such as where is the document? Why can't it be traced? What is taking so long to trace? How did the document got lost? Was the letter replied? Snapshot of the contractual details of a project, and so on...

We @i2R thought that there should be an application which should bridge this gap of communication among various stakeholders and therefore, came the idea of E-DMS development and implementation. E-DMS is designed to eliminate the chaos of documentation, tracking.

- ✓ E-DMS falls under the following Categories:
- ✓ Change Management (Version Control)
- ✓ Document Management
- ✓ File Sharing
- ✓ Issue Tracking
- ✓ Reporting

#### **Product Features**



Document Access Simple, quick access No Chaotic file structure.



Device Independent
Use the device you want
to have



Document Retrieval Powerful Search content & Metadata



Version Control
Tracking & Collaboration
of documents



Document Security
Have peace of mind with
AWS



Document Workflow Automated processing of data



# Contract Management

Project (Risk)
Management

Delay Analysis

Document Management

Technical Due Diligence /
Tech. Audit

#### Technical Due Diligence / Audits

i2R under its experts evaluates the preparedness of contractor in tackling the risk associated with time and cost overruns. This includes the following:

- ✓ Review of methodology for measuring the work
- ✓ Billing process
- ✓ Review of critical correspondences
- ✓ Submittal process
- ✓ Claim quantifications.
- √ Various reconciliations
- ✓ Change of Scope
- ✓ Quality
- ✓ Compliances based on various manuals & standards

# OUR SERVICES CLAIMS MANAGEMENT



i2R team for Claims Management provides their expert services in risk mitigation and dispute resolution to provide a comprehensive set of specialist services. The project scope of a construction project and the unique complex environment for each of the project, and other uncertainties often causes amplified costs & delays that lead to construction claims.

In such cases, the Claim Management Process kicks in. The process involves timely identification → analysis → quantification → report preparation → submission for settlement.

Few reasons to trigger Claims

- √ Changes in scope of work
- ✓ Delay in handing over
- ✓ Unforeseen site conditions
- ✓ Price escalation
- ✓ Statutory Approvals etc.

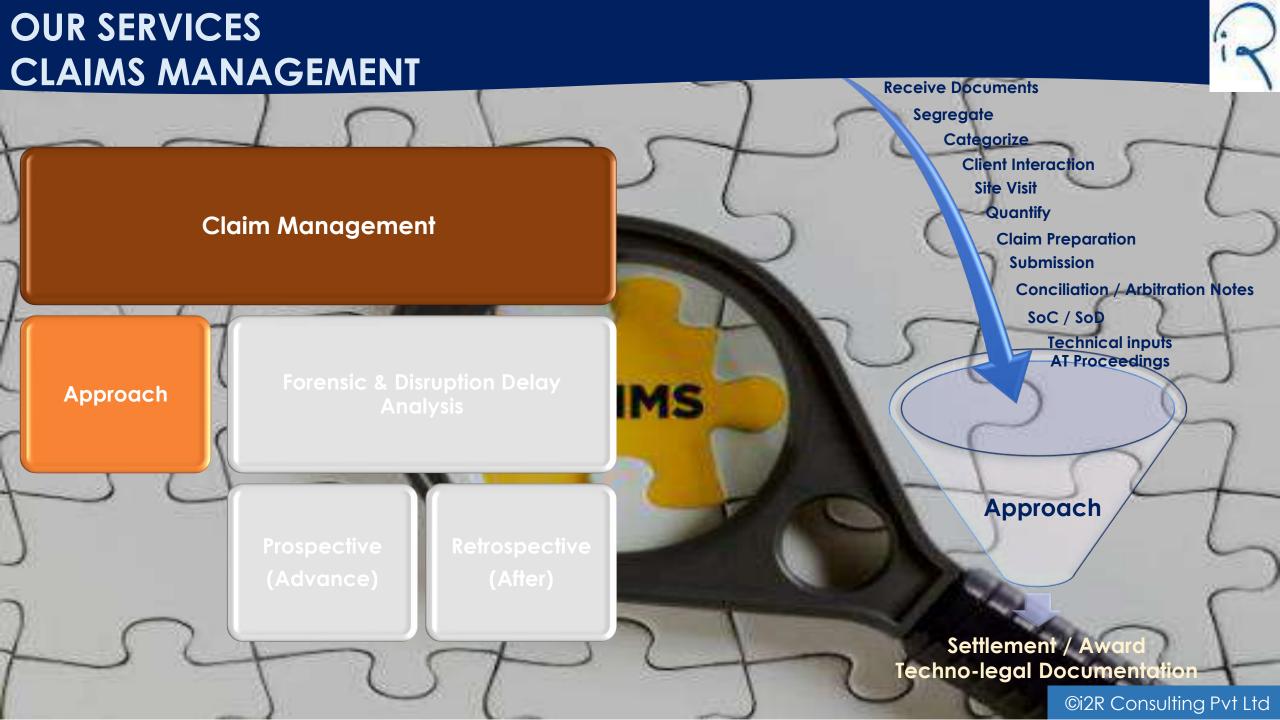
Claim Management

**Approach** 

Forensic & Disruption Delay Analysis

Prospective (Advance)

Retrospective (After)



# OUR SERVICES CLAIMS MANAGEMENT



©i2R Consulting Pvt Ltd

#### Forensic & Disruption Delay Analysis

Forensic delay and disruption analysis, is used to investigate the events using CPM scheduling methods to establish the cause and extent of delays and to resolve construction delay claims through negotiations or legal proceedings.

i2R has a field of experts trained and experienced in CPM scheduling. The expert performs the analysis by evaluating the planned and actual results, the type of critical delay incurred, and activities leading to the disruptions & delay.

#### **Forensic Delay Methods**

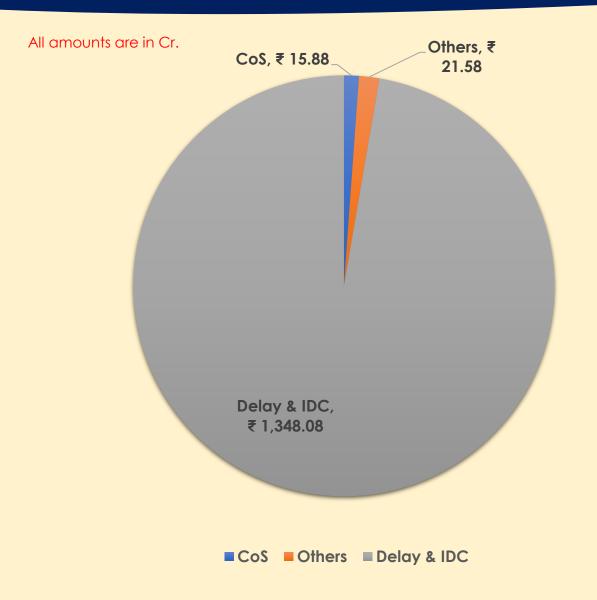
- ✓ Prospective (advance)
- ✓ Retrospective (after)
- ✓ Prospective methodologies such as Time impact, Impacted As Planned analyses predict the likely impact on the progress of the works
- ✓ Retrospective methodologies are those that seek to demonstrate the actual impact on the works

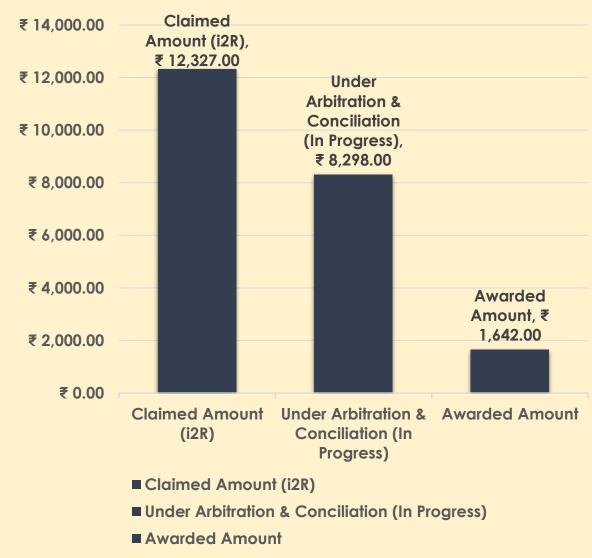


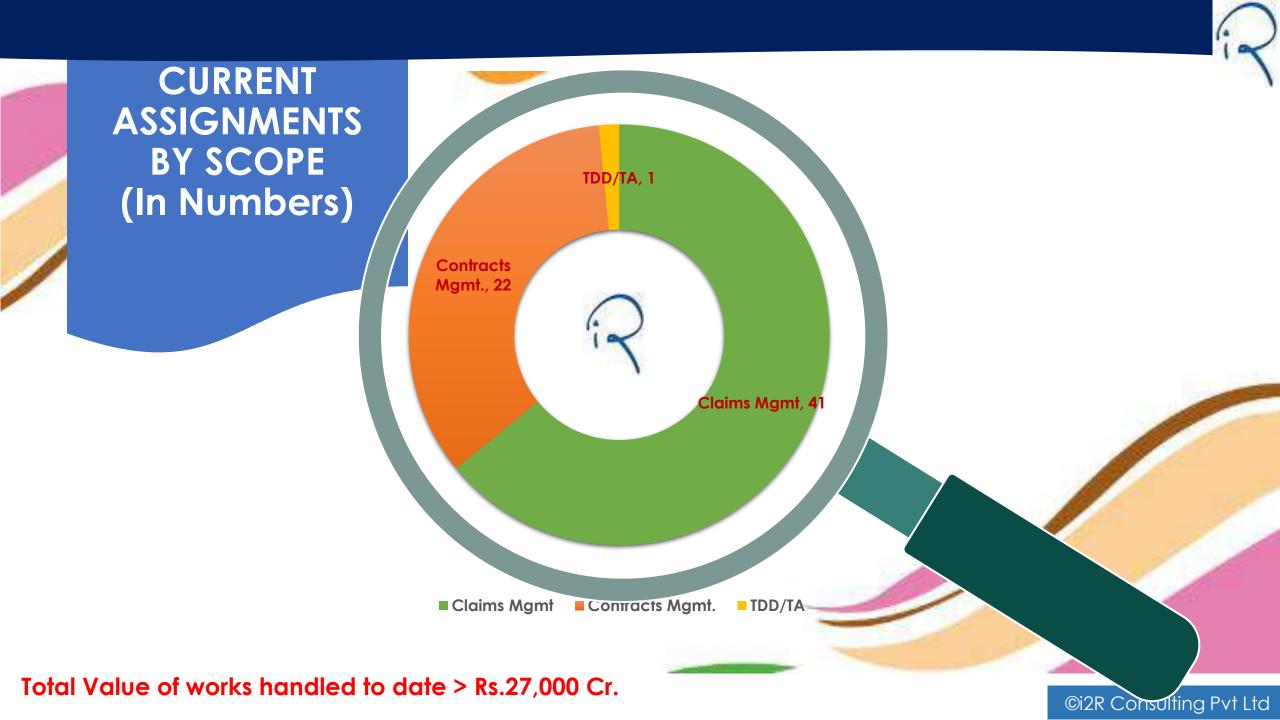


#### **KEY ATTAINMENTS & SUCCESS**





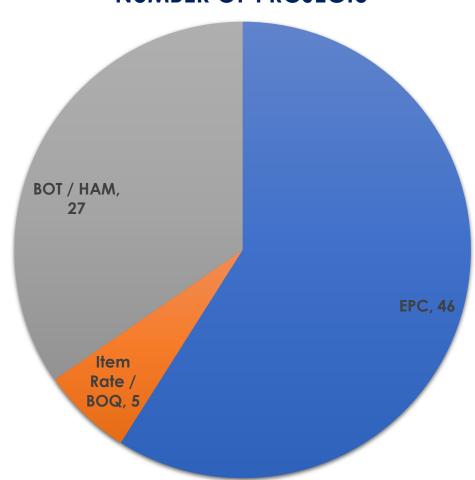




#### PROJECT UPDATE

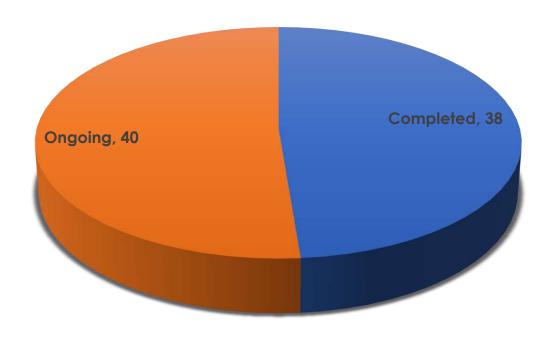


#### **NUMBER OF PROJECTS**



Expertise across all three types of Projects

#### ONGOING/COMPLETED









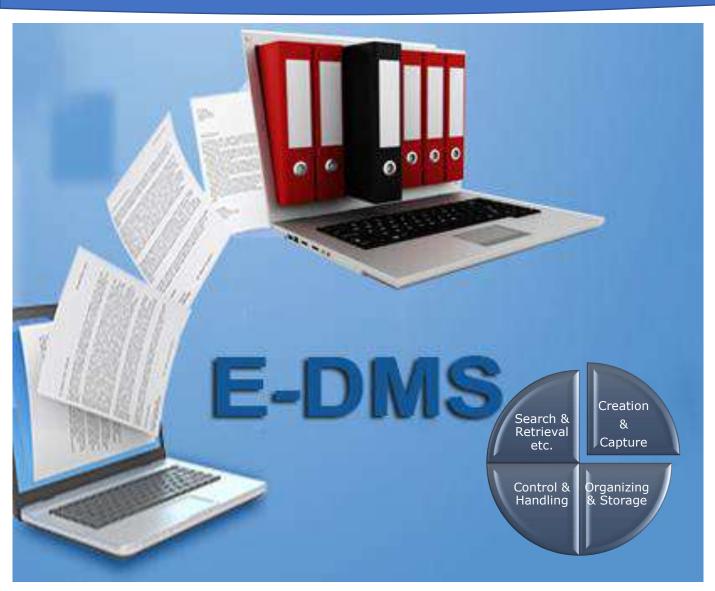
#### Projects dealt by i2R Team

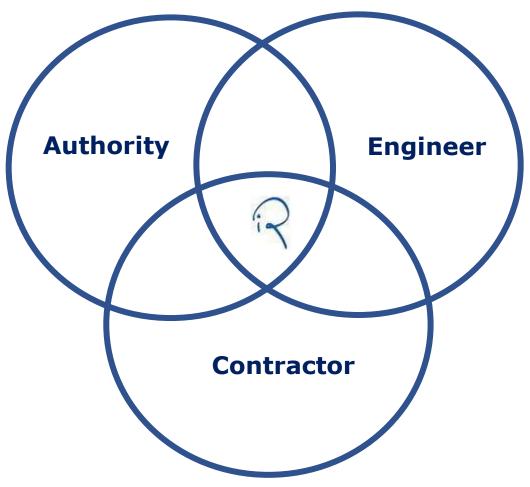
- DPR for Bus Rapid System Project -Bhopal
- DPR for Bus Rapid System Project Delhi
- Delhi LRT Techno-Economic Feasibility Study
- ISA services of Delhi Metro Rail Project
- Chennai Metro Rail Project
- ISA services of Bangalore Metro Rail Project
- Kolkata Metro Rail Project
- Kochi Metro Rail Project
- Nagpur Metro Rail Project
- Hyderabad Metro Rail Project

#### **IDEAS TRANSFORMING INTO REALITY**

# ?

#### i2R Project Document Management System





#### i2R ELECTRONIC DOCUMENTATION SYSTEM (EDMS)



Facilitate Collaboration (Stakeholders)

**Version Control** 

Lower
Document
Archiving Cost

Improved Timelines

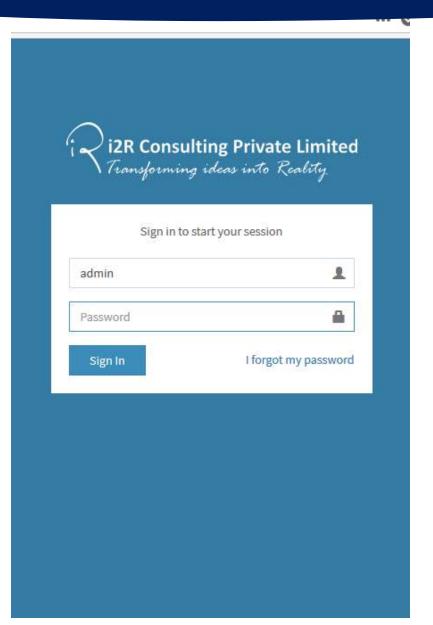
Enhanced Search

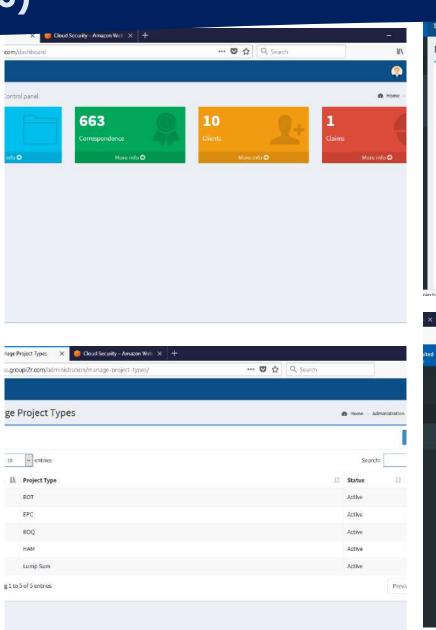
Low usage of mails

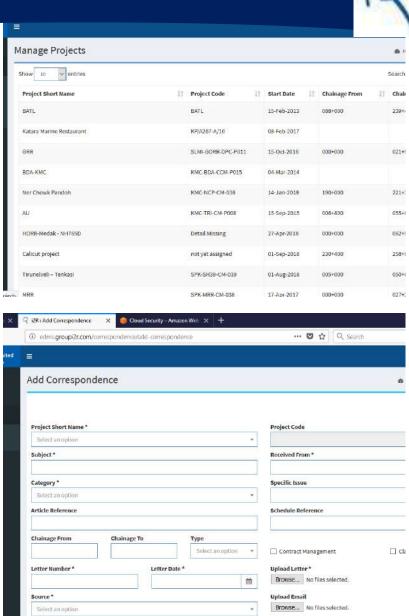
Increased
Document
Security &
Control

Assured / Safe Back-up

#### i2R; EDMS (SCREENSHOTS)







Upload RFI







Date: 14.04.2023

We KMC Constructions Ltd. (KMC) has appointed M/s. i2R Consulting Pvt Ltd, having its office at Banjara Hills, Hyderabad-500034, for Providing Contracts and Claims Management Services for "Four Laning of Ner Chowk Pandoh Including Pandoh Bypass Section of NH-21 under NHDP-IVB in the State of Himachal Pradesh On EPC Basis (Design Length 26.290 km)".

It is certified that M/s. i2R Consulting Pvt Ltd is Professional in dealing Project matters in the most transparent and efficient Manner. I2R guidance on Systematic documentation and providing best contractual drafts moved the things with positive conclusions and their services are very much helpful in delivering our overall contractual obligations.

We express our pleasure and appreciation on quality services that we have been receiving since Mar'2018. The performance of the company is satisfactory as a whole and our best wishes to M/s. i2R Consulting Pvt Ltd Company for their bright future and we look forward for long association.

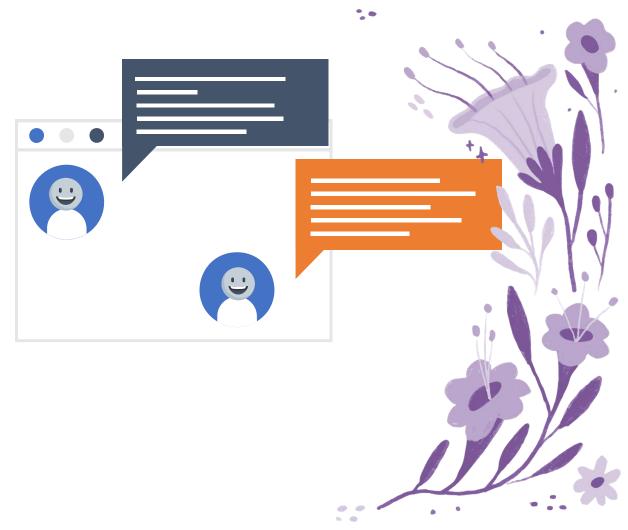
Thanks & Regards

A. R. Rajsekhar

KMC Constructions Ltd.

Mandi, H.P.







DATE: 11th January, 2021



# "M/s i2R Consulting Private Limited, is a very professional and committed agency, who with their qualified Professional team, execute the task in hand within the timelines and in great détail. We are very happy to have worked with them and satisfied with the outputs given by them. They will be definitely our first go to team for future endeavours."

#### To Whom It May Concern

We developed a very good business relationship with i2R Consulting Pvt Ltd during one of our highway projects work for CLAIMS MANAGEMENT / CONTRACT MANAGEMENT.

We appreciate their technical expertise, attention to every detail and availability of their team at all times. Their ease in approach makes the works smoother and faster.

We strongly recommend i2R services in the fields of Contracts/Claims Management.

Wishing them all the best in their future endeavours.

for GVK Bagodara Vasad Expressway Pvt. Ltd

M. Rama Murty Director



Ref No: KMC/I2R/REF

We are very much satisfied with the excellent services provided by I2R Consulting Pvt. Ltd. towards Claims management of Rayalseema Expressway Pvt Ltd. All the possible claims within the provisions of the Concession Agreement were identified, continuously pursued through the process of disputing, conciliation and the Arbitration. They succeeded in winning the award in favour of us within a reasonable timeline.

Place: Hyderabad

Date: 02.02.2021

Managing Director

KMC Constructions Ltd.





Irulappasamy Thunai

3ST: 33ABXFS5510P1ZG Fin No: 33565521308

CST No: 516750 Dt: 25.02.2008

Area Code : 283

lag, Off. 267, R.C. Middle Street, Keelamuckmennarkottal, Kamuthi Taluk, Runnad District - 623 623

Branch, Off. 1-1-63/7, S. P.K. Complex, Ananthopus Nagar 2nd Street, Madural Road, Anappulottal - 626 101.

Do:



#### TO WHOM SO EVER IT MAY CONCERN

I2R Consulting Pvt Ltd. helped us in successfully dealing the contractual issues with the Authority/IE, achieving COD successfully and submission of all possible claims to the Authority for the Project of Widening of Madurai Ring Road from Double Lane to Four Lane from Km 0/0 to Km 27/2 in the State of Tamil Nadu under TNRIDC – BOT (Toli) Basis.

Dear Sir,

"Our association with your company started in Aug'2019. We are extremely happy that your team has been doing a tremendous job in delivering Contractual/Technical letters at all times as a part of your Contract Management services. Your company is turning things around quickly, coming up with approaches and suggestions on your own on different initiatives. Especially your initiative drafts on COVID-19 relief measures and EOTs really moved the things faster with quick conclusions from Authority's end. We deeply appreciate your team efforts/commitment and we are exceptionally satisfised with your overall services. We feel that Companies like you would certainly contribute so much to this industry.



We wish your company a very bright future and we look forward for a strong and continued healthy business relations."

🛚 Aditya Manapragada; 🔘 Raghavendra Chary



#### **CLIENT TESTIMONIALS**

66

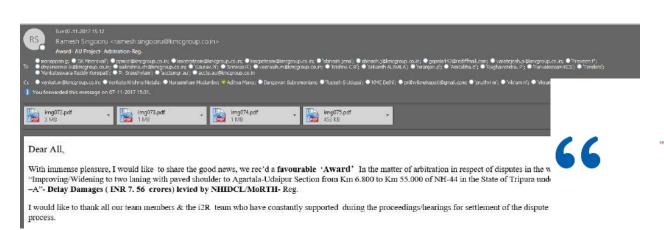
Our search for the right consultant to handle our contractual and claims challenges ended with i2R on board.

Their knowhow, expertise and professional approach has resolved and put us at ease on these challenges
thus helping us in managing our projects...

M V S Venkat Rao.

CEO.

SRK Projects Pvt. Ltd.



To: Krishna Nistala <a href="mailto:krishna.nistala@groupi2r.com">krishna Nistala <a href="mailto:krishna.nistala@groupi2r.com">krishna Nistala <a href="mailto:krishna.nistala@groupi2r.com">krishna Nistala <a href="mailto:krishna.nistala@groupi2r.com">krishna.nistala@groupi2r.com</a>; Raghavendri Venkatraman <a href="mailto:krishna.nistala@groupi2r.com">krishna.nistala@groupi2r.c

Cc: 'Ayush Acharjee' <a www.apexpartners.in>; 'Abhishek Aggarwal' <a href="mailto:abhishek@apexpartners.in">abhishek@apexpartners.in>
Subject: KMC Vs. NHIDCL: Agartala Udaipur Project

Dear Team.

Congratulations for yet another success story.

Thanks & Regards,



#### **Priyabrat Tripathy**

Partner

A 1/161, Safdarjung Enclave, New Delhi - 110029
 +91 9910382830; 011 - 40560826

priyabrat@apexpartners.in

priyabrat(wapexpartners.

www.apexpartners.in

#### **CLIENT TESTIMONIALS**

"We had decided to hire i2R mainly to take advantage of expertise of i2R in contractual matters which would benefit our company in mitigating the contractual bottlenecks /issues from time to time and also submit timely claims to the employer...We would recommend i2R."



#### Ramesh Singooru,

Vice-President & Head-Operations, Urban Infrastructure & Special Structures, ERP and Internal Audit,

KMC Constructions Ltd.

#### **CLIENT TESTIMONIALS**





i2R has been a good fit for SLMI. They have a well-grounded and courteous team who understand our challenges to the core. Their in-depth knowledge of the infrastructure industry has been a strong guiding force in our projects, allowing us to scale-up our business...

M Venkat Reddy,

Managing Director,
SLMI Infraprojects Pvt. Ltd.



















#### Annexure

**Project Details** 





# i2R Head Office i2R Branch Office INDIAN OCEAN

#### i2R Reach Pan India & East Asia

i2R's team has right people for the scope, and our specialized professionals are dedicated to resolve the contract related issues pertaining to the given Agreement be it EPC, BOT, HAM etc.

At i2R the team is constantly updated with the various happenings in the industry, case studies, ministry circulars etc.

We have several and successful Arbitration Awards in our portfolio.

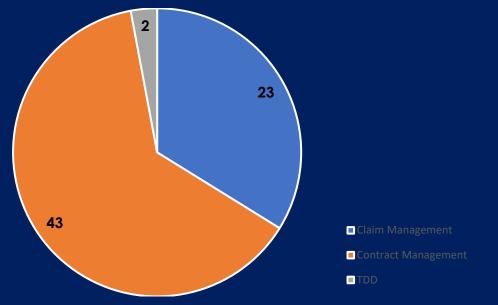
We are committed to provide high quality & cost-effective services with reasonable timelines to our Clients.

We take pride in the fact that most of our Clients end up being "Repeat Clients" – a testimony for the trust developed on us for their Contract & Claims Management issues.



https://www.groupi2r.com/

### (Type Of Contracts - Completed Vs Ongoing)



Туре	Services	On-going	Completed
EPC / Item	СМ	•	
Rate	CLM	0	0
PPP / BoT	СМ	<b>A</b>	<b>A</b>
	CLM	Δ	Δ
HAM	СМ	<b>*</b>	<b>•</b>
	CLM	<b>♦</b>	<b>♦</b>



#### A Few Of Our Key Projects

S/N	Project Short Name	Туре	Service
1	Widening and strengthening of existing 2-lane carriageway on Hyderabad to Tokapalle section of NH-765	EPC	Claims
2	Nakrekal to Nagarjunasagar section of NH-565	EPC	Project Management, Contracts & Claims
3	Six laning of Existing Kozhikode Bypass (i.e., Vengalam Jn. To Ramanattukara Jn.) of NH-66	НАМ	Project Management, Contracts & Claims
4	Nanasa to Pidgaon section of NH-47 Package-III (Indore-Harda)	НАМ	Project Management, Contracts & Claims
5	"Construction of 8-lane carriageway on PKG-10 (Delhi-Vadodara/NH-148N/AE/Pkg4)"	EPC	Project Management, Contracts & Claims
6	First Dhaka Elevated Expressway (FDEE)	PPP	Contracts Management
7	Pre Tender and Post Tender activities for Construction of Versova Bandra Sea Link (VBSL) on Engineering, Procurement and Construction (EPC) Basis	EPC	Supervision



#### A Few Of Our Key Projects

S/N	Project Short Name	Туре	Service
8	Four laning of Cuddapah-Kurnool section of NH-18 under NHDP-Phase III	ВоТ	Claims
9	6-laning of Vadakkanchery-Thrissur section of NH47	ВоТ	Project Management Contracts & Claims
10	Four Laning of Krishnagar-Baharampore section of NH 34 under NHDP Phase III	ВоТ	Claims
11	Two laning with paved shoulder of Agartala-Udaipur section SARDP-NE Phase 'A'	EPC	Contracts Claims
12	Four Laning of Narketpally - Addanki - Medarametala Road	ВоТ	Claims
13	6 laning of the existing 3-lanes of Bagodara-wataman-Vasad Road	ВоТ	Claims
14	NH-67 (Atmakur to Nellore section) under NHDP-IV	EPC	Claims
15	Nadaprabhu Kepme Gowda layout (Package-I)	Item Rate	Contracts Claims



## **End of Annexure**



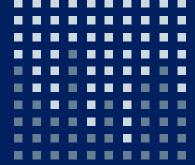


https://www.facebook.com/groupi2r

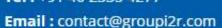


https://twitter.com/Groupi2R

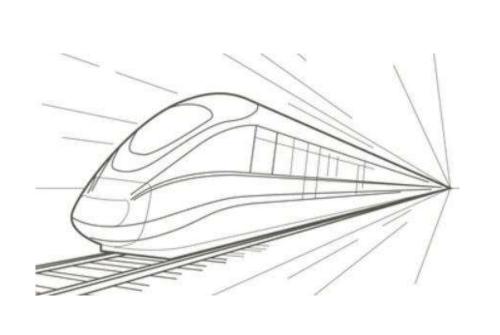












# i2R RAIL INFRA SYSTEMS PROFILE

#### **ABOUT i2R**



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We decode the complexity of the project to manage the risk, mitigation, uncertainty, and disputes so as to achieve the best possible outcomes for our Clients all the time.

Clients Leveraged expertise of i2R To Support their Legal Teams and To Close Contractual Issues Faster, thereby greatly improving the Project Economics

- Area of expertise include metro rail & railways, roads/highways and urban infrastructure.
- Competent team > 500 years cumulative experience in the mentioned services put together.
- Involved in projects worth more than USD 4400 million

#### A FEW OF OUR CUSTOMERS









## **MULTI-DICIPLINARY TEAM**



#### i2R Consulting





## i2R BU Head

#### Group i2R



Mr.Krishna MD & CEO

#### i2R Rail Infra & Systems





#### **Druta Designs**





## **OUR TEAM & VALUES**



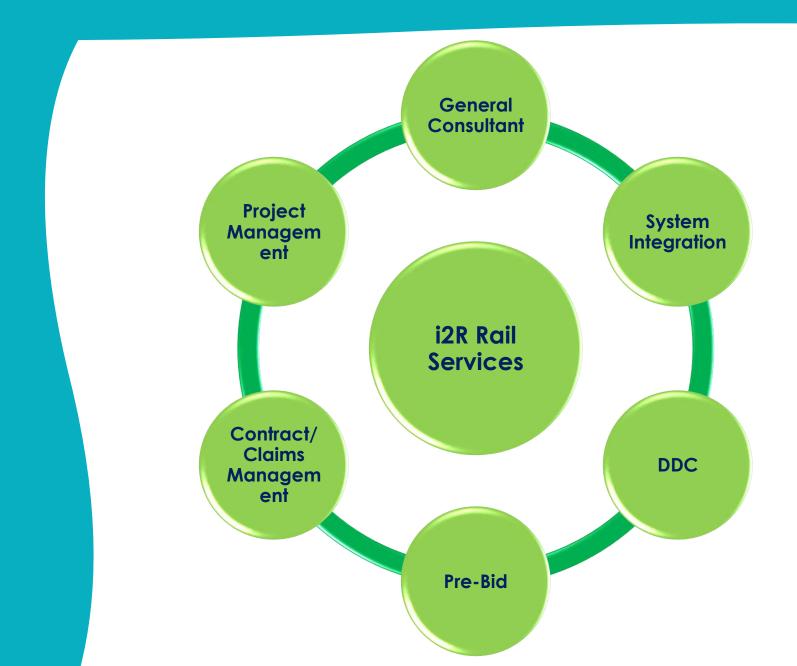


We facilitate sustainable development authorite of the facilitate sustainable development authorite of the facilitate sustainable development authorite of the facilitate of t

- Accountability by acknowledging and assuming complete ownership for our actions, services, decisions;
- Innovation by continually questioning assumptions, perusing details and pursuing new creative ideas to achieve excellence and add value to our clients;
- Empowerment by encouraging employees to take initiative and give the best by adopting an errorembracing environment; and
- > Building strong relationships through openness, honesty, respect, collaboration and cooperation for our colleagues, our clients and associates.

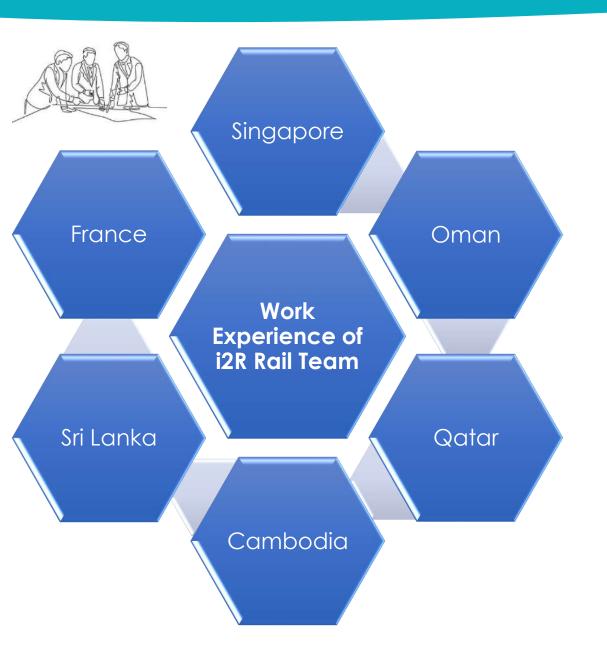
## **SERVICES**





## PROJECTS DEALT BY TEAM i2R RAIL





#### Projects dealt by i2R Team

- DPR for Bus Rapid System Project Bhopal
- DPR for Bus Rapid System Project –
   Delhi
- Delhi LRT Techno-Economic Feasibility Study
- ISA services of Delhi Metro Rail Project
- Chennai Metro Rail Project
- ISA services of Bangalore Metro Rail Project
- Kolkata Metro Rail Project
- Kochi Metro Rail Project
- Nagpur Metro Rail Project
- Hyderabad Metro Rail Project

**Contract Management** 



i2R's team has right people for the scope, and our specialized professionals are dedicated to resolve the contract related issues pertaining to the given Agreement be it EPC, BOT, HAM, Item Rate etc.

At i2R the team is constantly updated with the various happenings in the industry, case studies, ministry circulars etc.

We have several and successful Arbitration Awards in our portfolio.

We are committed to provide high quality & cost-effective services with reasonable timelines to our Clients.

We take pride in the fact that most of our Clients end up being "Repeat Clients – a testimony for the trust developed on us fore their Contract & Claims Management issues.

# Project (Risk) Management Delay Analysis Document Management

#### **Contract Management**

- ✓ Day-to-day contract administration with Engineer and the Authority.
- ✓ Constant monitoring of projects
- Identify probable bottlenecks & suggest solutions
- ✓ Resolve contractual issues
- Draft correspondences with stakeholders
- ✓ Analyze issues & recommend suitable responses
- Review the correspondence & prepare appropriate cases
- ✓ Assist in streamlining the Contract Administration
- ✓ Liaise with legal consultants and the Authorities.
- ✓ Monthly Progress Reports.

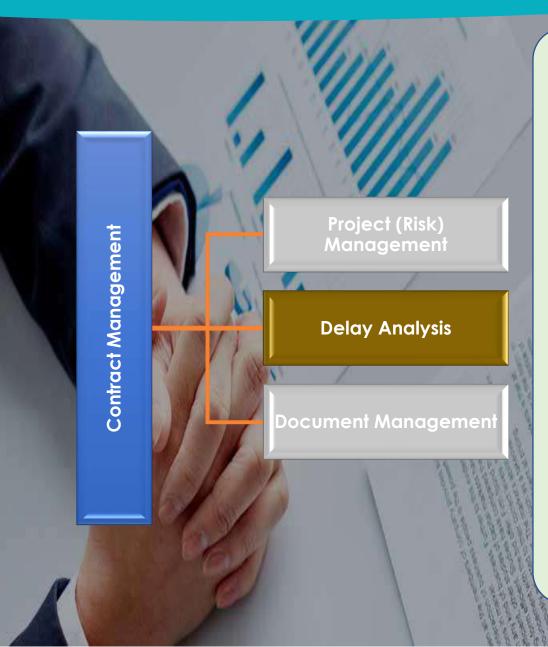




#### **Project Risk Management**

- ✓ Construction Methodology
- ✓ Baseline Program (BSLP)
- ✓ Check the submitted BSLP using the standard assessment procedure.
- ✓ Identification & quantification of project bottlenecks
- ✓ Impacted program
- ✓ Extension of time program
- ✓ Time & Cost Delay Analysis (excludes forensic delay analysis).
- ✓ Tracking of the Baseline program.
- ✓ Electronic Documentation Management (E-DMS)
- ✓ Monthly Progress Reports.
- ✓ Program of works (PoW)
- ✓ MIS Reporting
- ✓ Risk evaluation
- ✓ Stating effective measures of Risk control
- ✓ Monitoring of risk factors





#### **Delay Analysis**

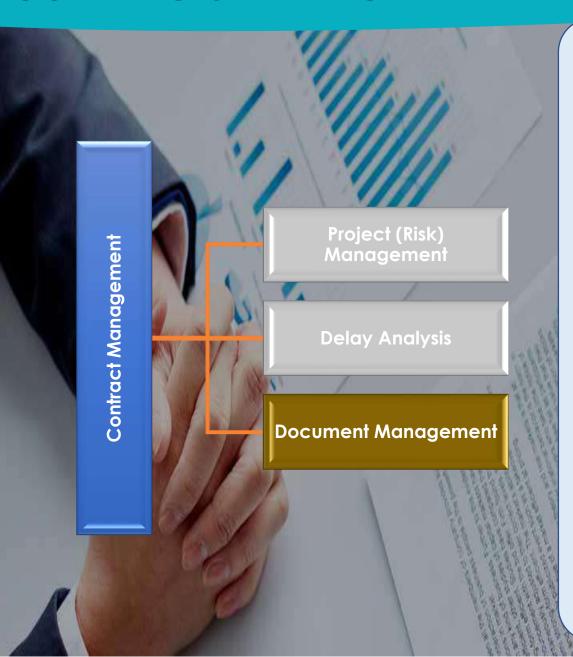
Projects often suffer from delays due to a wide variety of reasons, which has severe financial impact.

The analysis of the delay impact, the causes, and effects of the delaying activities is one of the most complicated types of claims analysis.

It requires an expert like i2R which has extensive knowledge of construction projects, means and methods, scheduling, and the ability to develop a sound methodology to conduct the analysis.

- @ i2R, we follow the following internationally acclaimed and accepted methods based on the available data from the Client.
- ✓Impacted-As-Planned (IAP) Analysis
- √Time Impact Analysis (TIA)
- ✓ As Planned Vs As Built Analysis (APAB)





#### **Document Management**

Contracting companies face issues on documents tracing such as where is the document? Why can't it be traced? What is taking so long to trace? How did the document got lost? Was the letter replied? Snapshot of the contractual details of a project, and so on...

We @i2R thought that there should be an application which should bridge this gap of communication among various stakeholders and therefore, came the idea of E-DMS development and implementation. E-DMS is designed to eliminate the chaos of documentation, tracking.

- ✓ E-DMS falls under the following Categories:
- ✓ Change Management (Version Control)
- ✓ Document Management
- ✓ File Sharing
- ✓ Issue Tracking
- ✓ Reporting

#### **Product Features**



Document Retrieval Powerful Search content & Metadata



**Document Security** Have peace of mind with AWS



\* -

Document Workflow Automated processing of data



**Document Access** 

Simple, quick access

No Chaotic file structure.



Device Independent Use the device you want to have

Version Control Tracking & Collaboration of documents

## **CLAIMS MANAGEMENT**



i2R team for Claims Management provides their expert services in risk mitigation and dispute resolution to provide a comprehensive set of specialist services. The project scope of a construction project and the unique complex environment for each of the project, and other uncertainties often causes amplified costs & delays that lead to construction claims.

In such cases, the Claim Management Process kicks in. The process involves timely identification  $\rightarrow$  analysis  $\rightarrow$  quantification  $\rightarrow$  report preparation  $\rightarrow$  submission for settlement.

Few reasons to trigger Claims

- √ Changes in scope of work
- ✓ Delay in handing over
- ✓ Unforeseen site conditions
- ✓ Price escalation
- ✓ Statutory Approvals etc.

**Claim Management** 

**Approach** 

Forensic & Disruption Delay Analysis

Prospective (Advance)

Retrospective (After)

## **CLAIMS MANAGEMENT**



#### **Claim Management**

Approach

Forensic & Disruption Delay Analysis

Prospective (Advance)

Retrospective (After) Segregate
Categorize
Client Interaction
Site Visit
Quantify
Claim Preparation
Submission
Conciliation / Arbitration Notes
SoC / SoD
Technical inputs
AT Proceedings

**Approach** 

Settlement / Award
Techno-legal Documentation

## **CLAIMS MANAGEMENT**



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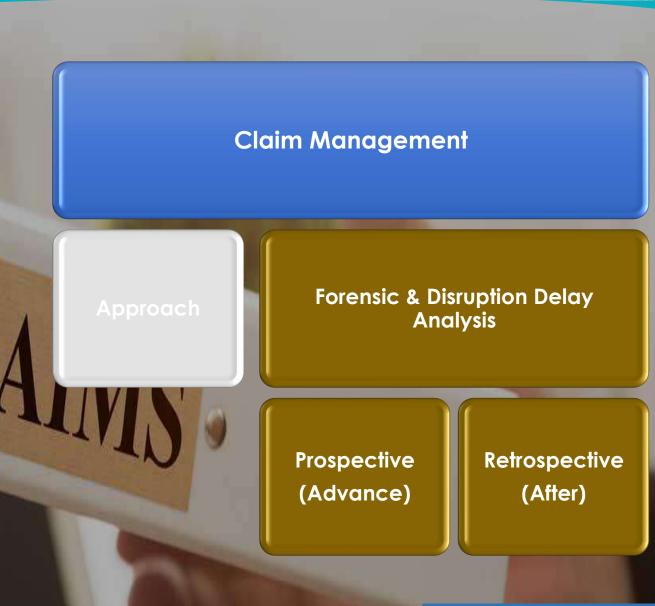
#### Forensic & Disruption Delay Analysis

Forensic delay and disruption analysis, is used to investigate the events using CPM scheduling methods to establish the cause and extent of delays and to resolve construction delay claims through negotiations or legal proceedings.

i2R has a field of experts trained and experienced in CPM scheduling. The expert performs the analysis by evaluating the planned and actual results, the type of critical delay incurred, and activities leading to the disruptions & delay.

#### **Forensic Delay Methods**

- ✓ Prospective (advance)
- ✓ Retrospective (after)
- ✓ Prospective methodologies such as Time impact, Impacted As Planned analyses predict the likely impact on the progress of the works
- ✓ Retrospective methodologies are those that seek to demonstrate the actual impact on the works





## i2R Rail Reach - Pan India

S/N	Assignment Name	Client	Services	Status
1	RVNL Project Usargaon to Bhimsen station on Jhansi Division	SEW-ETF-AIL JV	Claims	Ongoing
2	Ghaziabad and Sahibabad Stations of Delhi -Meerut RRTS Project	KEC International	Claims	Closed
3	Surat Metro Rail Project, Phase-I	J Kumar Infraprojects Limited(JKIL)	Contracts & Claims	Ongoing
4	Road Over Bridges (ROBs) at 7 Locations (Nagpur- Amla) of MRIDC	KEC International	Claims	Ongoing
5	Sub-urban Rail Project For K-RIDE	Associates to GC (JV)	GC	Ongoing



https://www.groupi2r.com/

## i2R ELECTRONIC DOCUMENTATION SYSTEM (EDMS)





Enhanced Productivity

Facilitate Collaboration (Stakeholders)

**Version Control** 

Lower Document Archiving Cost Improved Timelines

Enhanced Search

Low usage of mails

Increased
Document
Security &
Control

Assured / Safe Back-up

#### **PRODUCT FEATURES**



Document Access Simple, quick access No Chaotic file structure.



Document Security Have peace of mind with AWS



Version Control
Tracking & Collaboration
of documents



Document Retrieval
Powerful Search content
Metadata





Device Independent Use the device you want to have



Document Workflow Automated processing of data















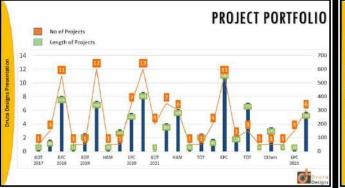
Truta Designs





Tel: +91 40 2335 4277







- Four laning of Ner Chowk Pandoh including Pandoh Bypass section of NH-21 (Package-I from Km 190.000 to Km 221.305); NHOP-IVB in the State of Himachal Pradesh on EPC Basis.
- Authority: NHAI
- · EPC Contractor: KMC Constructions Ltd
- Project Cost: 873 Crore
- Construction Period 30 Months
- Design Length: 26.290Km (including Twin Tunnel- 3 nos-2.283km in Bypsses
- Bypasses 2 nos. -13.161km
- Existing Alignment: 2Lane -13.129km









# **SERVICES OFFERED**

Concept Designs	
Feasibility Studies	
Detailed Designs for Roads and Bridges	
Pretender Assistance	
Clash Analysis using Building Information Modelling (BIM)	



# PROJECT MANAGEMENT (12R)



Design Management



Project Risk Management



Contract Management



Claims Management



IT Tools & Applications



## **ACHIEVEMENTS**

Detailed Design 49 Projects

Pretender services 52 Projects

Proof Checking 2 Projects

Total length of Design services 1374 Km

6-Lane Expressway 65 Km

6-Lane Highway 204 Km

4-Lane Expressway 31 Km

4-Lane Highway 496 Km

2-Lane Highway 578 Km



## **OUR CLIENTS**









































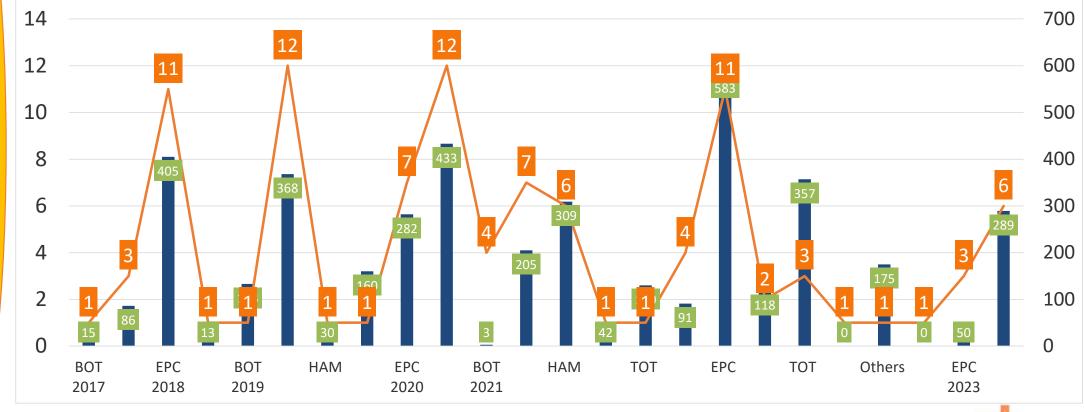




## PROJECT PORTFOLIO

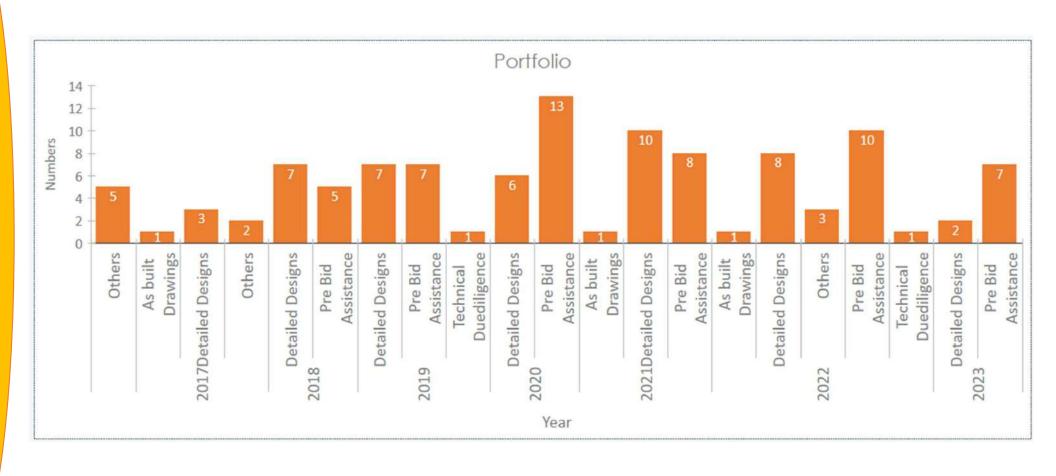
No of Projects

Length of Projects

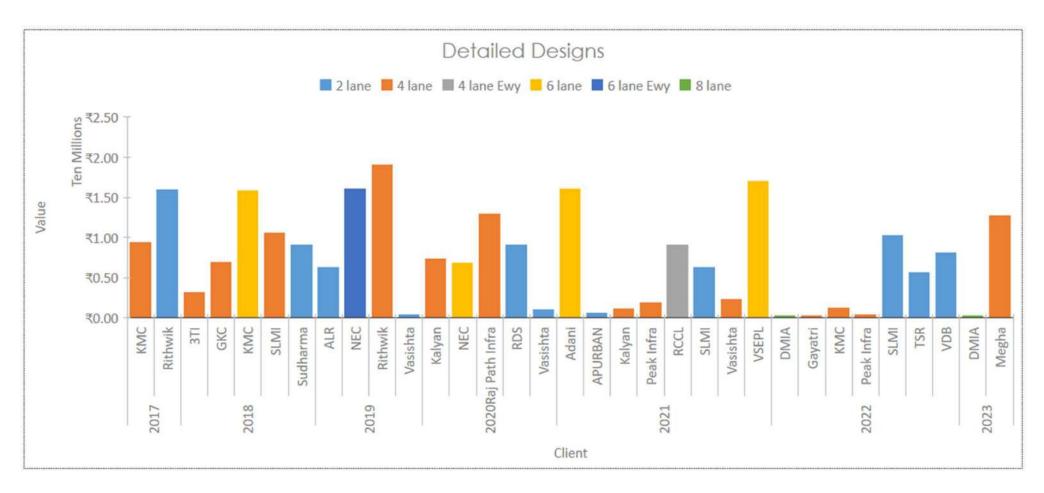




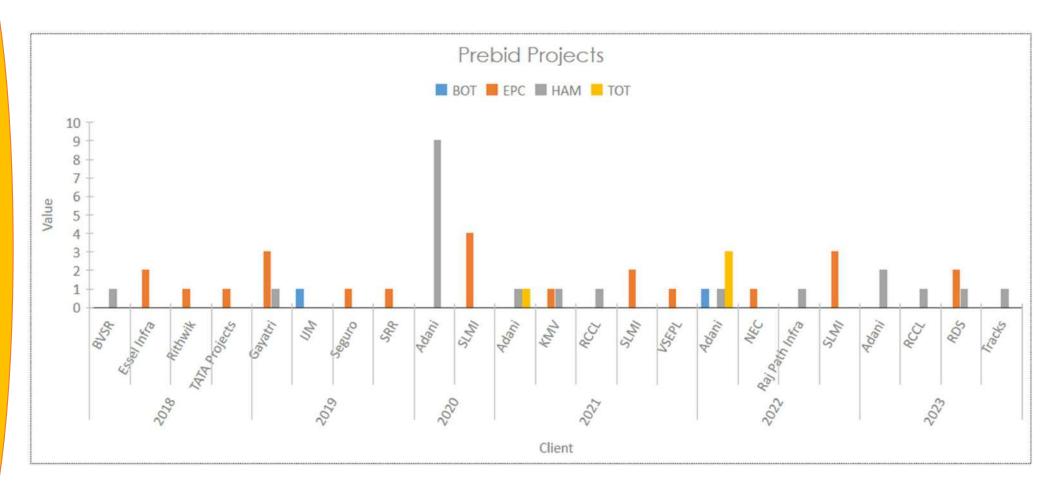
## YEAR WISE PROJECTS



## DETAILED DESIGNS CLIENT WISE YEAR WISE



## PREBID PROJECTS CLIENT WISE YEAR WISE



# YEAR WISE PROJECTS (LENGTH IN KM)

Year	Completed	Ongoing	Total
2017	101		101
2018	418		418
2019	691		691
2020	715		715
2021	689		689
2022	1118	205	1323
2023	191	385	576
<b>Grand Total</b>	3923	590	4513

# YEAR WISE DETAILED DESIGN PROJECTS (KM)

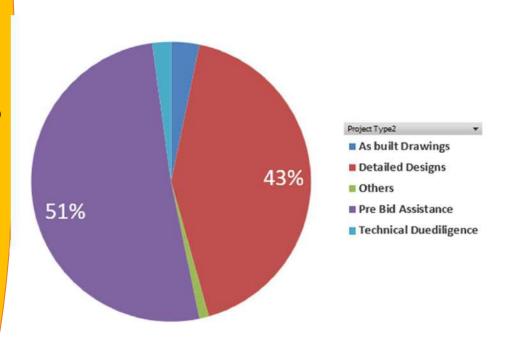
Year	Completed	Ongoing	Total
2017	86		86
2018	220		220
2019	251		251
2020	181		181
2021	252		252
2022	3	205	208
2023	0	177	177
<b>Grand Total</b>	993	382	1374

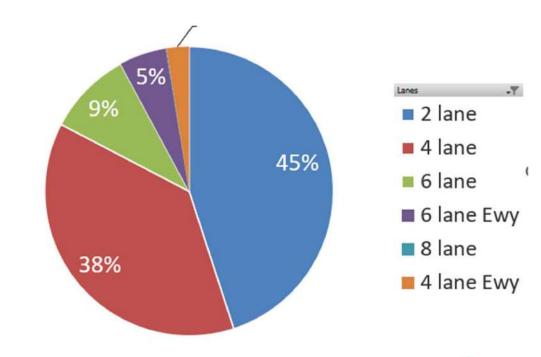
# YEAR WISE PREBID PROJECTS (KM)

Year	Completed	Ongoing	Total
2018	198		198
2019	280		280
2020	534		534
2021	437		437
2022	791		791
2023	191	208	399
<b>Grand Total</b>	2430	208	2639



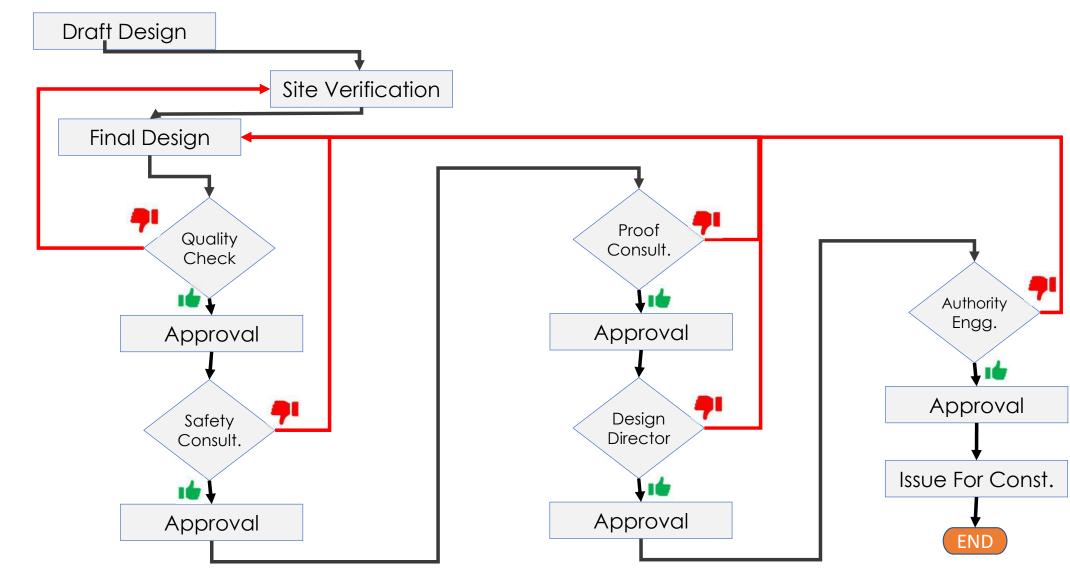
# PROJECT PORTFOLIO



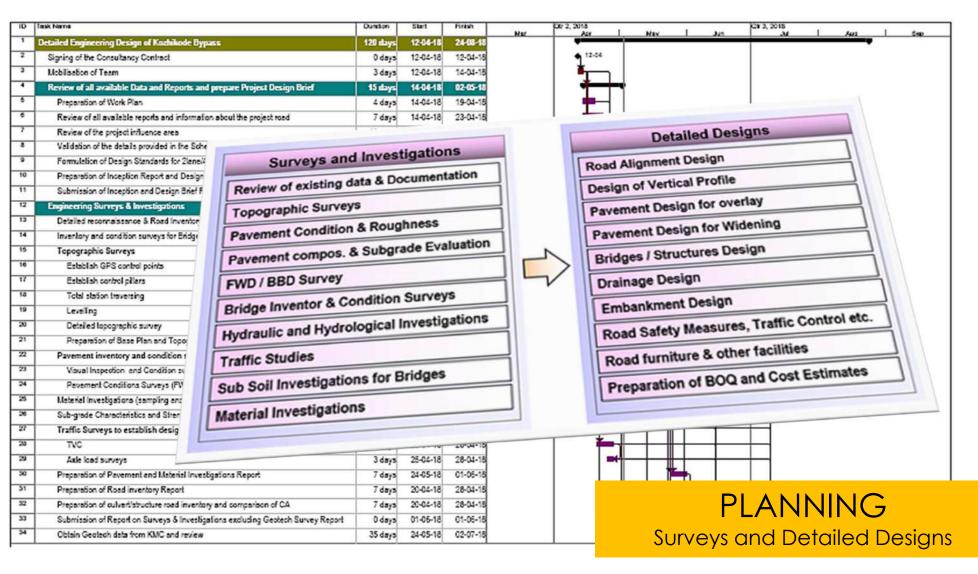




## DETAILED DESIGN PROCESS



## **DESIGN PHASE**

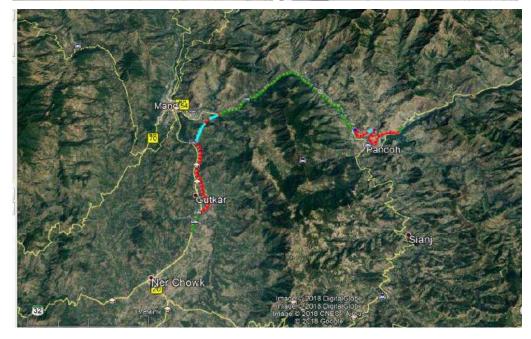


# NER CHOWK — PANDOH (HIMACHAL PRADESH)

- \* Four laning of Ner Chowk Pandoh including Pandoh Bypass section of NH-21 (Package-I from Km 190.000 to Km 221.305); NHDP-IVB in the State of Himachal Pradesh on EPC Basis.
- \* Authority: NHAI
- EPC Contractor: KMC Constructions Ltd
- \* Project Cost: 873 Crore
- Construction Period 30 Months
- \* Design Length: 26.290Km (including Twin Tunnel- 3 nos-2.283km in Bypsses
- \* Bypasses 2 nos. -13.161km
- Existing Alignment: 2Lane -13.129km







# MACHILIPATNAM — AVANIGADDA (ANDHRA PRADESH)

Design Consultancy Services for Rehabilitation and up-gradation of Machilipatnam to Avanigadda section from Km 84/550 to Km 124/200 of NH-214A (New NH-216) to two lane with paved shoulder in the state of Andhra Pradesh under NHDP –IV Through Engineering, Procurement & Construction (EPC) basis.

Authority: MoRTH

EPC Contractor: RVR-SIPL (JV),

\* Project Cost: 222 Crore

Construction Period – 24 Months

Design Length: 34.400Km

Bypasses 2 nos and Realignment. -16.670km

Existing Alignment: 2Lane -17.730.km







## KANDI – RAMSANPALLE (TELANGANA)

Design Consultancy Services for Four laning of NH-161 from Kandi (Existing Km 0.000 / Design Km 0.000) to Ramsanpalle (Existing Km 44.757 /Design Km 39.980) (Design Length = 39.980 Km) in the State of Telangana under Bharatmala Pariyojna through an Engineering, Procurement and Construction (EPC) Contract.

\* Authority: NHAI

\* EPC Contractor: GKC Projects Pvt.Ltd.

\* Project Cost: **544** Crore

Construction Period – 30 Months

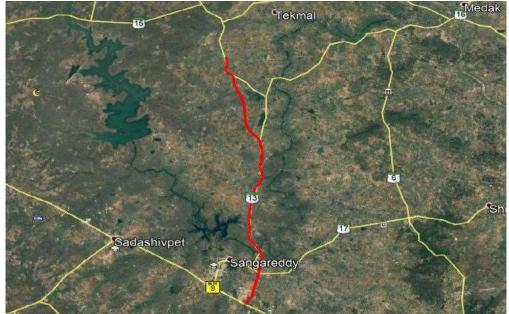
\* Design Length: 39.980Km

\* Bypasses 2 nos. -19.200km

Existing Alignment: 2Lane -20.780km







15

## CALICUT BYPASS (KERALA)

Design Consultancy Services for Six-Laning of Existing Kozhikode Bypass (Near Vengalam JN to Ramanattukara JN) Section of NH-66 from Km 230+400 (Existing Km 230+400) to Km 258+800 (Existing km 27+840 of NH-PWD) under NHDP Phase — III on Hybrid Annuity Mode in the state of Kerala.

\* Authority: NHAI

Concessionaire: Calicut Expressway Ltd.(KMC Constructions Ltd)

Project Cost: 1554 Crore

Construction Period – 30 Months

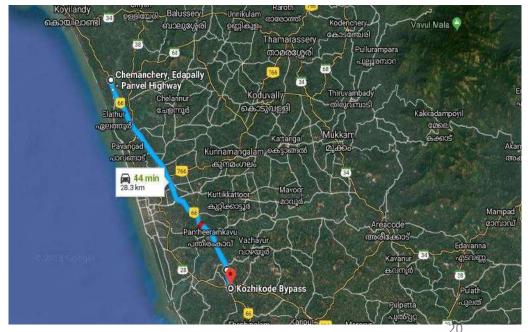
Design Length: 28.400Km

\* Bypasses / Realignment - Nil

Existing Alignment: 2Lane -28.400km







# HYD ORR — MEDAK (TELANGANA)

Design Consultancy Services for Rehabilitation and Up-gradation of Hyderabad outer ring road to Medak Section of NH-765 D from existing Km 15.970 (Design Km. 0.000) to existing Km 78.700 (Design Km. 62.920) to Two Lane with paved shoulders / Four Lane in the State of Telangana on Engineering, Procurement & Construction (EPC) basis contract.

\* Authority: R&BD, Telangana/MoRTH

EPC Contractor: BSLMI (JV),

Project Cost: 322 Crore

Construction Period – 18 Months

Design Length: 62.920Km

\* Bypasses/Realignmnets: 2.210km

Existing Alignment: 2Lane – 60.710km







# PASARLAPUDI — DINDI (ANDHRA PRADESH)

Design Consultancy Services for Rehabilitation & Upgradation of Pasarlapudi to Dhindi section from km.105+170 to km.126+510 of NH-214 (New NH-216) to two lane with paved shoulder in the state of Andhra Pradesh under NHDP-IV on EPC mode.

\* Authority: MORTH

EPC Contractor: SIPL- SVSMC (JV),

Project Cost: 126 Crore

Construction Period – 24 Months

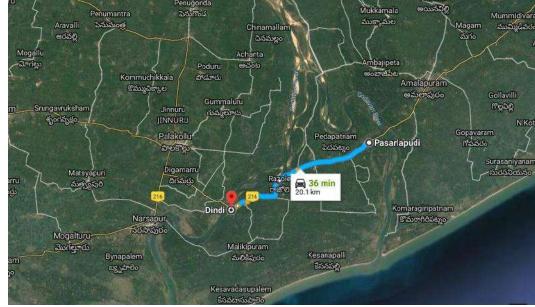
\* Design Length: 20.823Km

Bypasses/Realignments . -14.998.km

Existing Alignment: 2Lane -5.825 km







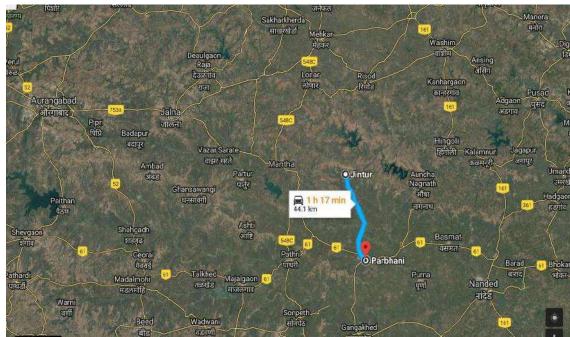
# JINTUR — PARBHANI (MAHARASHTRA)

Design Consultancy Services for Rehabilitation and Upgradation of Jintur to Parbhani from Km. 47/000 to Km. 85/420 (Section II) of — Watur — Phata — Mantha — Jintur — Bori — Zari - Parbhani National Highway to two lane with paved shoulder in the state of Maharashtra on EPC mode

- \* Authority: Maharashtra State Road Development Corporation Ltd. (MSRDC)
- \* EPC Contractor: Ritwik Project Private Limited
- Project Cost: 272 Crore
- Construction Period 24 Months
- Design Length: 38.420Km
- Bypasses/Realignment. 1.380
- Existing Alignment: 2Lane -36.040 km



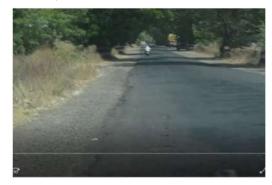




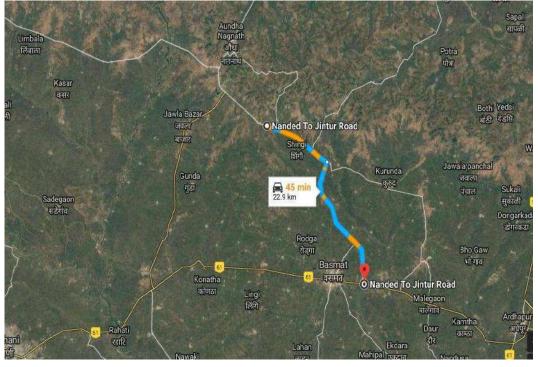
# SHIROD SHAHPUR — VASMAT (MAHARASHTRA)

Design Consultancy Services for Rehabilitation and Upgradation of Shirod Shahpur - Vasmath Section from Km. 48/000 to Km. 70/430 (Section II) of Jintur — Aundha Nagnath — Shirod Shahpur — Vasmat — Nanded state highway to two lane with paved shoulder in the state of Maharashtra on EPC mode.

- Authority: Maharashtra State Road Development Corporation Ltd. (MSRDC)
- \* EPC Contractor: Ritwik Project Private Limited
- Project Cost: 170 Crore
- Construction Period 24 Months
- Design Length: 22.430Km
- \* Bypasses/Realignment. 1.000
- Existing Alignment: 2Lane -21.430 km







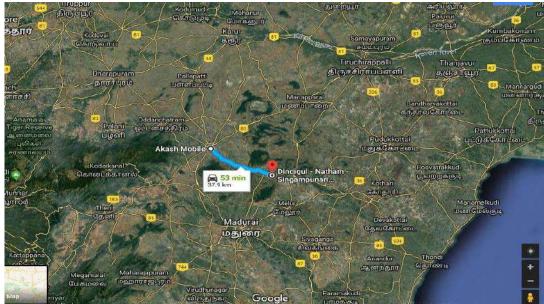
# DINDIGUL — NATHAM ROAD (TAMIL NADU)

Design Consultancy Services for Detail Design of the project "Widening & Strengthening the existing 2-lane to 2-lane with paved shoulder from km 0/550-1/100, 5/700-21/070, 21/500- 34/200 & 34/870-38/000 and 4-lane from km 0/0-0/550, 1/100-1/760, 2/400-5/700, 21/070- 21/500, 34/200-34/870 and Strengthening from km 1/780-2/420 of NH383 (Dindigul- Natham Section) in the State of Tamil Nadu under EPC Mode.

- Authority: National Highway, Government of Tamil
   Nadu (MORTH Funded)
- EPC Contractor: ALR Construction, Andipatti, Theni, Tamil Nadu.
- \* Project Cost: **140.45** Crore
- Construction Period 18 Months
- \* Design Length: 38.00Km
- \* Bypasses/Realignment. 12.000 km
- \* Existing Alignment: 2Lane -26.000 km







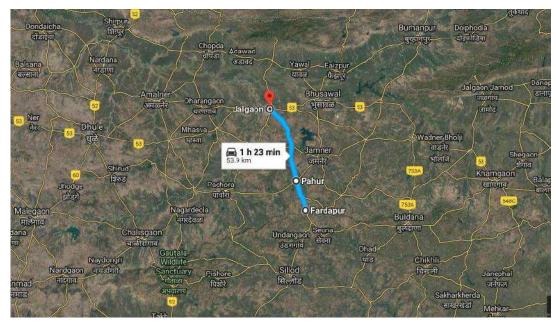
### FARDAPUR — JALGAON ROAD

Design Consultancy Services for Detail Design of Structures and Miscellaneous Items of Project facilities for the project" 4 laning of Fardapur- Pahur- Jalgaon from existing km 100+000 to km 147+840 [Design km.99+660 to km. 144+750] to Two lane with paved shoulders in the state of Maharashtra on Engineering, Procurement & Construction (EPC) Basis Contract.

- Authority: NH Division (PWD), Government of Maharashrtra(MORTH Funded)
- EPC Contractor: Ritwik Project Private Limited, Hyderabad.
- \* Estimated Project Cost: 367.31 Crore
- Construction Period 24 Months
- Design Length: 45.11Km
- Bypasses/Realignment. 0.5km
- \* Existing Alignment: 2Lane -44.61 km







### NAGPUR — MUMBAI EXPRESSWAY — PACKAGE 15

Design Consultancy Services for Detailed Detail Design of the project "6 lane Nagpur-Mumbai Super Communication Express way site Package 15 Ch km. 636.479 to Ch km. 664.479- Maharashtra"- EPC Mode.

- Authority: MSRDC, Government of Maharashrtra (MSRDC Funded)
- EPC Contractor: Navayuga Engineering Company Limited, Hyderabad.
- \* Estimated Project Cost: **1694.58** Crore
- Construction Period 36 Months
- Design Length: 28Km
- \* Bypasses/Re/New alignment. 28km Green Field
- \* Tunnel : 2 Nos. 1.337km







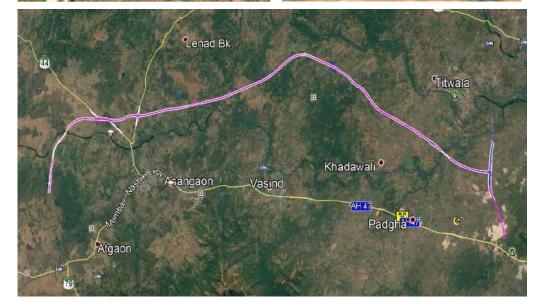
### NAGPUR — MUMBAI EXPRESSWAY — PACKAGE 16

Design Consultancy Services for Detailed Detail Design of the project "6 lane Nagpur-Mumbai Super Communication Express way site Package 16 Ch km. 664.479 to Ch km. 701.479- Maharashtra"- EPC Mode.

- Authority: MSRDC, Government of Maharashrtra (MSRDC Funded)
- EPC Contractor: Navayuga Engineering Company Limited, Hyderabad.
- Estimated Project Cost: 2423.63 Crore
- Construction Period 36 Months
- Design Length: 37Km
- \* Bypasses/Re/New alignment. 37km Green Field
- \* Tunnel: 2 Nos. 1.353km







## AMARAVATHI — CHIKLI (PACKAGE-1)

Balance Four Laning Work of Package-1 from km 166.000 (Amravati) to km 220.000 (Near Kurankhed) Section of Amravati – Chikhli NH-6 in the state of Maharashtra to be executed as Hybrid Annuity Project Under NHDP Phase IV

\* Authority : NHAI

\* Concessionaire: Rajpath Infracon Pvt. Ltd

\* Estimated Project Cost: 663 Cr.

Construction Period: 24 months

\* Design Length: 54.0 Km

\* Re-alignment: 0.800 Km







## AMARAVATHI — CHIKLI (PACKAGE-4)

Balance Four Laning Work of Package-4 from km 315.000 (Nandura) to km 360.000 (Chikli) Section of Amravati – Chikhli NH-6 in the state of Maharashtra to be executed as Hybrid Annuity Project Under NHDP Phase IV

\* Authority : NHAI

Concessionaire: Kalyan Toll Infrastructure Ltd

\* Estimated Project Cost: 672 Cr.

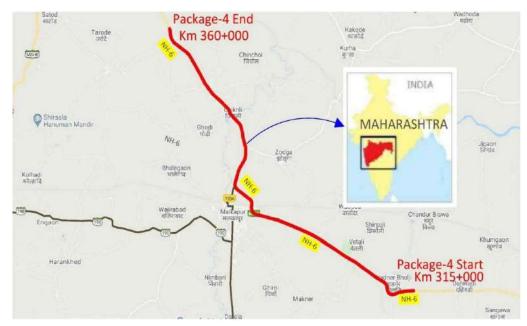
Construction Period: 24 months

\* Design Length: 45.0 Km

\* Bypass / Re-alignment : 6.700 Km







## VIJAYAWADA BYPASS (PACKAGE-4)

Construction of 6-lane Vijayawada Bypass from Gollapudi (Design Ch. 30+000) to Chinnakakani (Design Ch. 47+881) in Vijayawada- Gundugolanu section of NH 16 in the state of Andhra Pradesh on Hybrid Annuity Mode (Package-4).

\* Authority : NHAI

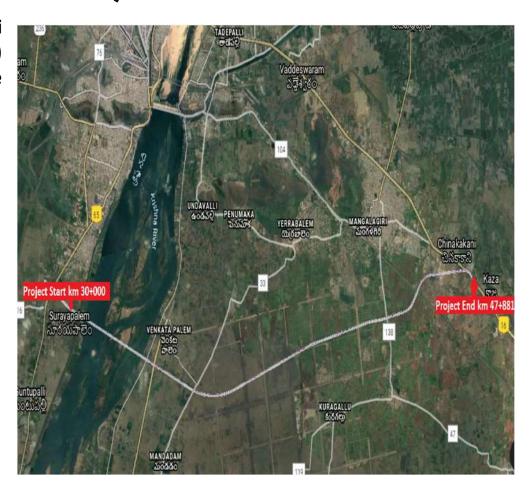
Concessionaire: Adani – Navayuga (JV)

\* Estimated Project Cost: 1425 Cr.

\* Construction Period: 36 months

\* Design Length: 17.881 Km

\* Bypass / Re-alignment : Complete Greenfield



### EDOOR - PALATHUMKADAVU

Upgrading to 2-Lane with paved shoulder from Edoor (Km 0+000) to Palathumkadavu road (Km 24+450) in Kerala

\* Authority: KSTP

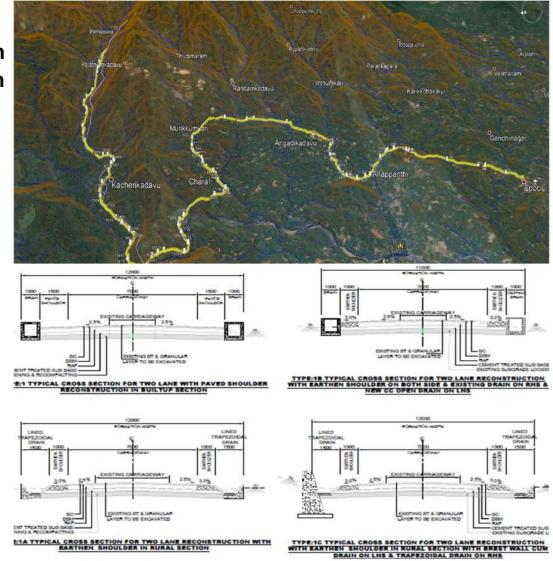
Concessionaire: RDS Projects Ltd.

\* Estimated Project Cost: 130 Cr.

\* Construction Period: 24 months

\* Design Length: 25 Km

\* Bypass / Re-alignment : Nil



#### KUMBLA — BADIADKA — MULLERIA

Upgrading Kumbla - Badiadka - Mulleria Road (design chainage KM. 0+000 TO 29+135) in KERALA

\* Authority: KSTP

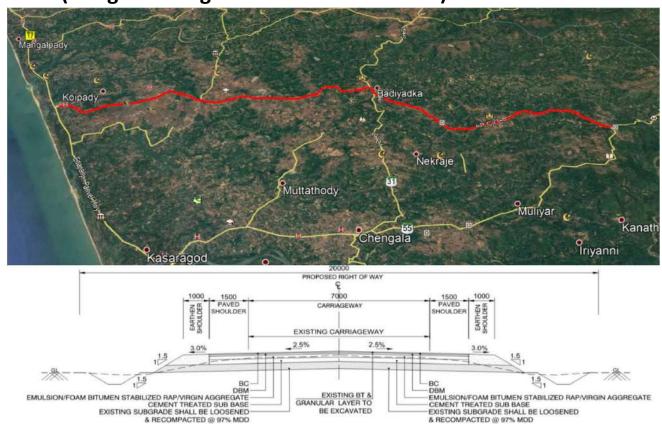
\* Concessionaire: RDS Projects Ltd.

\* Estimated Project Cost: 158 Cr.

\* Construction Period: 24 months

\* Design Length: 30 Km

\* Bypass / Re-alignment : Nil



TYPE-1A: TYPICAL CROSS SECTION FOR TWO LANE WITH PAVED SHOULDER RECONSTRUCTION IN RURAL SECTION WITH BOTH SIDE NORMAL GROUND LEVEL UPTO 1.5M

#### AZHIYUR — VENGALAM

Six Laning of Azhiyur to Vengalam section of NH-17 (New NH-66) from Des.Ch. 189+200 (Ex. km 188+000) to Des. Ch. 232+100 (Ex. km 230+400) [except 6 laning of Paloli to Moorad section from Des. Ch. 203+000 (Ex. km 201+590) to Des.Ch. 205+100 (Ex. km 203+900)] in the State of Kerala on Hybrid Annuity Mode under Bharatmala

\* Authority: NHAI

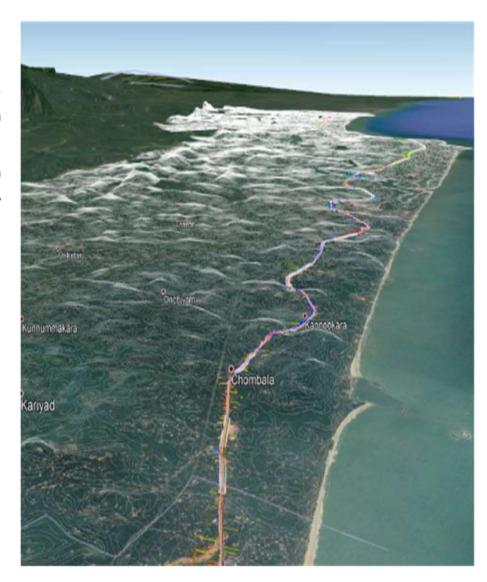
Concessionaire: Adani Road Transport Ltd

Estimated Project Cost: 1838 Cr.

Construction Period: 30 months

\* Design Length: 41 km

\* Bypass / Re-alignment : 11 km



#### THALIPARAMBA — MUZHAPPILANGAD

Six Laning of Thaliparamba to Muzhapilangad section of NH-17 (New NH-66) from Ch. 134+650 (existing km 137+900) to Ch. 164+958 (existing Km 170+600) in the State of Kerala on Hybrid annuity Mode under Bharatmala Pariyojna

\* Authority: NHAI

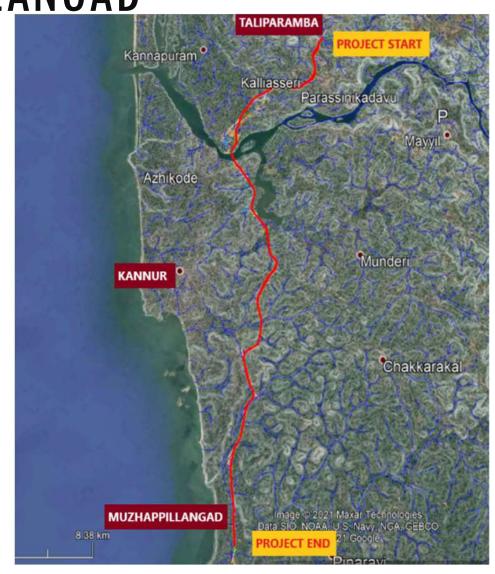
 Concessionaire: Vishwa Samudra Kannur Expressways Pvt Ltd

\* Estimated Project Cost: 2000 Cr.

Construction Period: 30 months

\* Design Length: 30 km

\* Bypass / Re-alignment : 13 km



#### BANGALORE CHENNAI EXPRESSWAY PH 3 PKG IV

Four Lane Bangalore- Chennai Expressway from Ch. 230.000 to Ch. 261.705 (Kanchipuram to Sriperumbudur section in the state of Tamilnadu) under Bharatmala on HAM mode (Phase-3, Package-IV)

\* Authority: NHAI

\* Concessionaire: RCCL

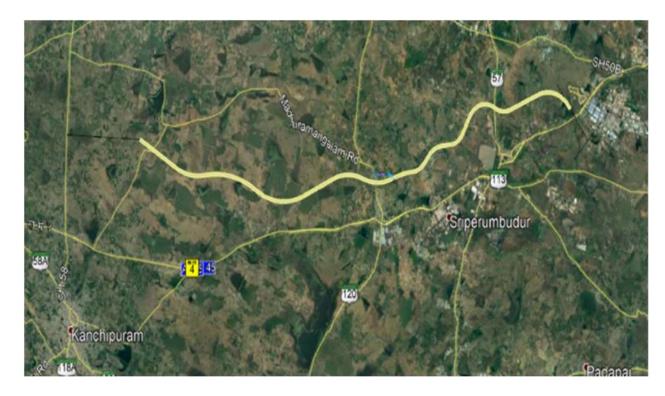
Estimated Project Cost: 2000 Cr.

Construction Period: 30 months

\* Design Length: 32 km

\* Bypass / Re-alignment : Greenfield

expressway



#### KAVALI — DUTTALUR

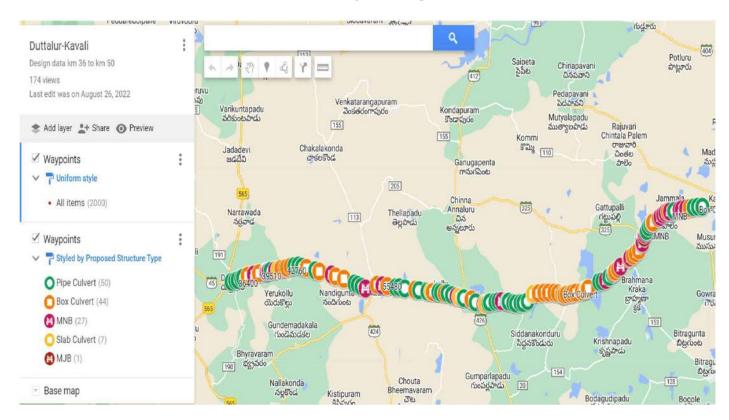
Upgradation of existing road to 2-Lane with Paved shoulder configuration from design Km. 36+400 -Km. 107+224 from Duttalur (At NH-565 Jn) to Kavali (joining NH-16) in Andhra Pradesh

on EPC basis

\* Authority: MoRTH

\* Concessionaire: TSR Nirman

\* Design Length: 70 km



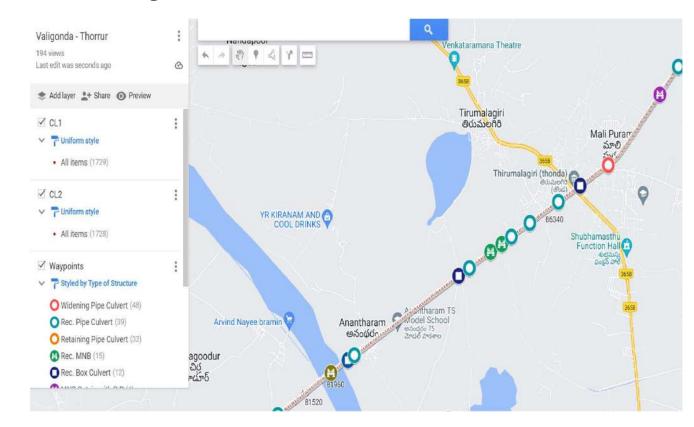
#### VALIGONDA — THORRUR

Upgradation of Valigonda to Thorrur road section to 2-Lane with Paved shoulders from Km. 39+180 - 108+300 of NH-930P in Telangana on EPC basis

\* Authority: MoRTH

\* Concessionaire: VDB

\* Design Length: 70 km



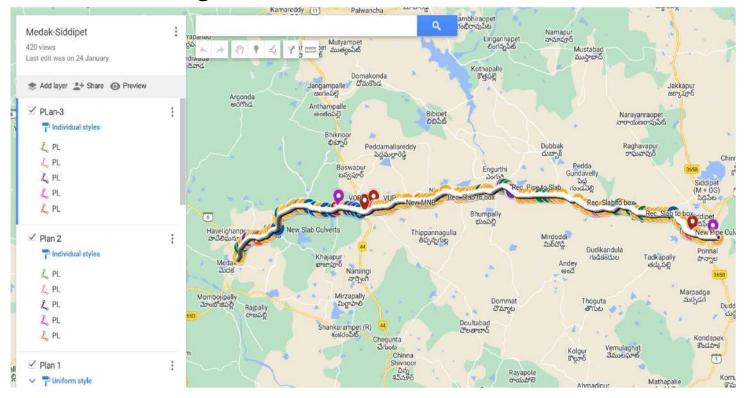
#### SIDDIPET — MEDAK

Widening to 2-lane with paved shoulders of Medak – Siddipet section from km 0.000 to km 69.978 of NH-765DG in the state of Telangana on EPC basis

\* Authority: MoRTH

Concessionaire: SLMI

\* Design Length: 70 km



#### CHILLAKURU — TURPU KANUPURU — PORT

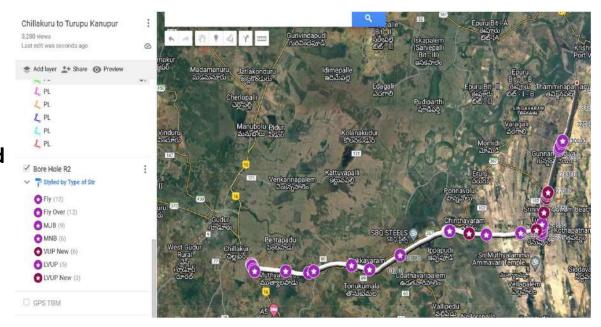
Construction of Four Laning of Chillakuru Cross Road to Turpu Kanupur (Part 1 of Package-II) Km 0+000 (131+500 of NH-16) to Km 23+770 on New NH-516W including six lane flyover and approaches on NH-16 (Length Km 1.050) and Six Laning of Turpu kanupuru to Port South Gate (Part 2 of Package-II) Km 23+770 to Km 35+015 on New NH-516W in the State of Andhra Pradesh on HAM

\* Authority: NHAI

\* Concessionaire: MEIL

\* Design Length: 36 km

Bypass / Re-alignment : Mostly greenfield



## **TEAM**





# RESOURCES

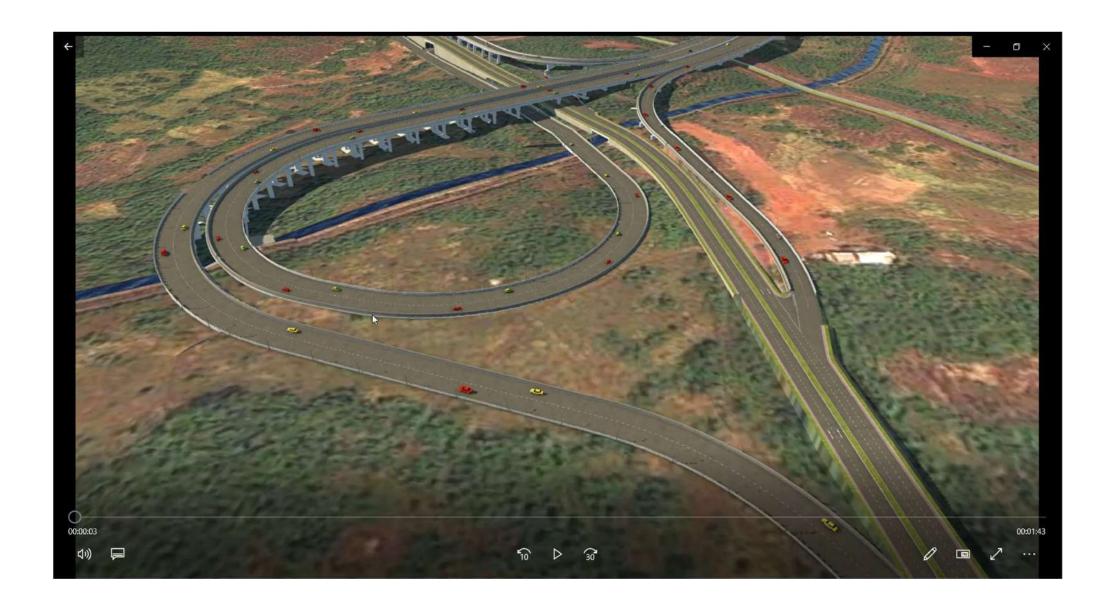
S. No.	Discipline	Exp (Years)	S. No.	Discipline	Exp (Years)		
Highway Design Team:			Project	Project Management Team:			
1	Chief Designer	27	19	Head- Project Management	40		
2	Survey Engineer	25	20	Managing Director	27		
3	CADD Manager	19	21	COO	26		
4	Sr. CAD Draughtsman	10	22	Sr. Material Engineer	26		
5	Asst. Highway Design Engineer	3	23	Director	20		
6	Asst. Highway cum Pavement Engineer	3	24	Sr. Highway Engineer	19		
7	Highway Design Engineer	2	25	Sr. Quantity Surveyor	19		
8	Highway Design Engineer	2	26	Head- Business Development	19		
9	Junior Engineer	2	27	Project Manager	15		
10	Asst. Highway Design Engineer	1	28	Sr. Quantity Surveyor	12		
Bridge Design Team:			29	Panning Engineer	11		
11	Project Manager	27	30	Project Engineer	8		
12	Sr. Bridge Design Engineer	23	31	Sr. Accountant	5		
13	Asst. Bridge Design Engineer	3	32	Planning Engineer	3		
14	Asst. Bridge Design Engineer	3	33	Project Coordinator	1		
15	Bridge Design Engineer	2	34	GET			
16	Asst. Bridge Design Engineer	1					
17	Asst. Bridge Design Engineer	1	Can mobilise additional resources depending on				
18	Asst. Bridge Design Engineer	the Project Requirements					

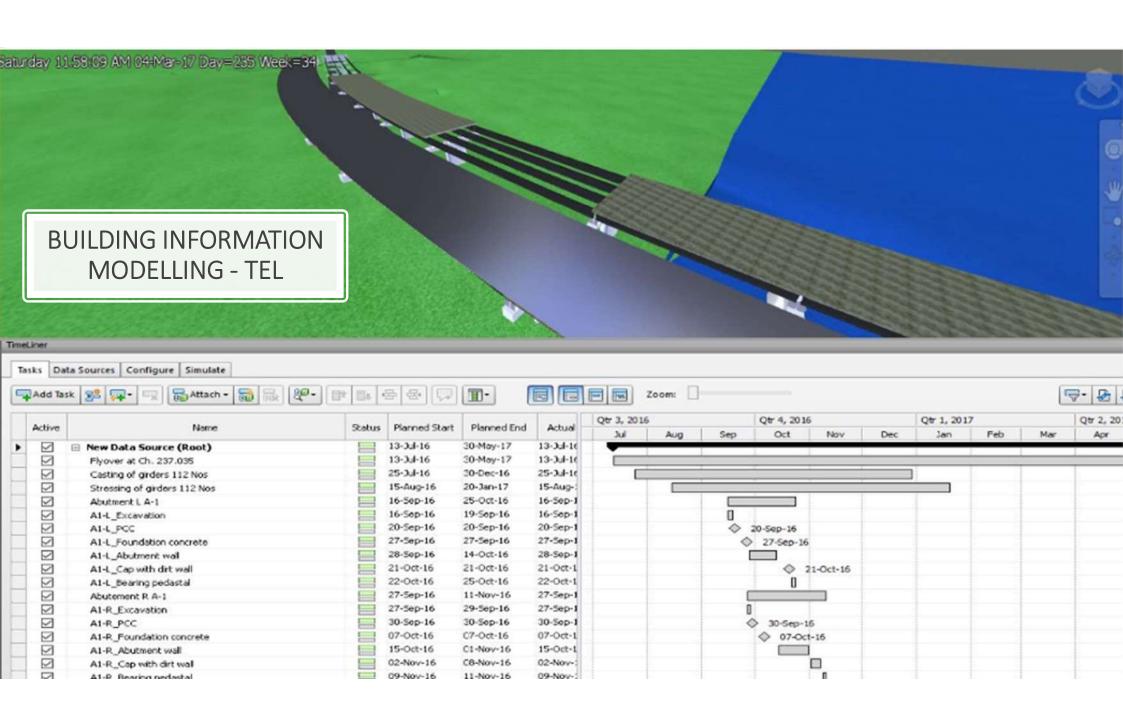


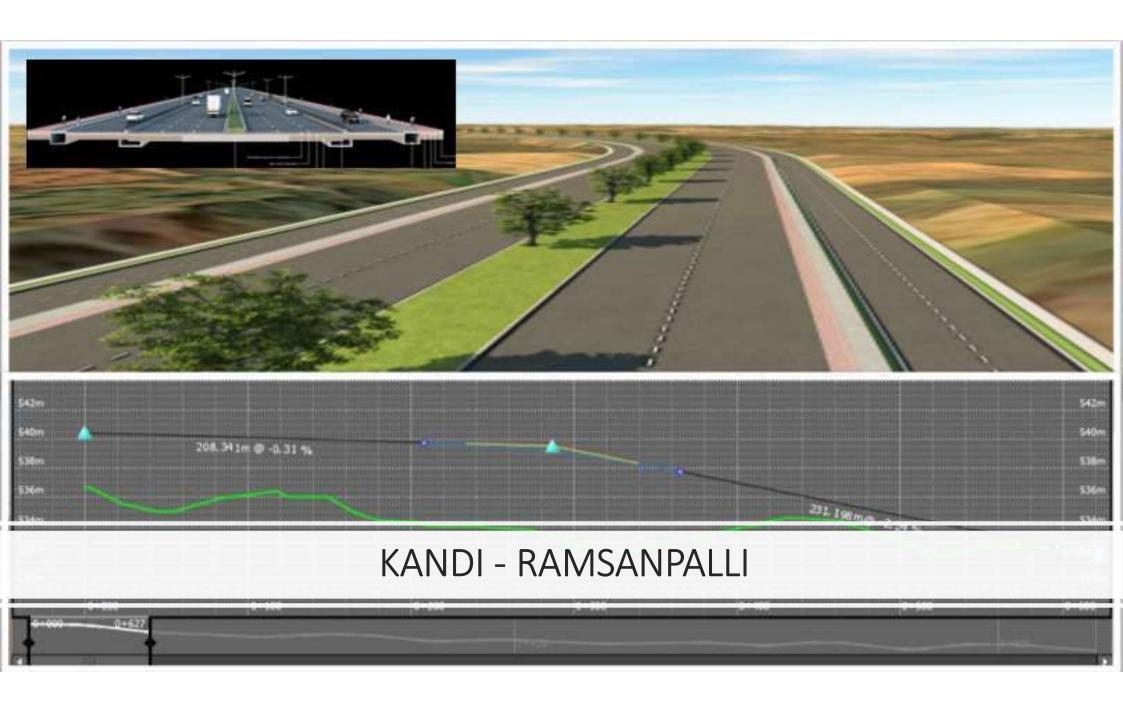
# **RESOURCES**

S. No.	Supplier	Software	Usage	Version	No. of Licenses				
Design Management (Highways & Bridges):									
1	Autodesk	Civil 3D	Highway Design	2020	5				
2	Autodesk	Infraworks	Highway Conceptual design and 3D modelling	2020	2				
3	Autodesk	Revit	Structure 3D Modelling	2020	2				
4	Autodesk	AutoCAD	Draughting	2020	4				
5	ZW Soft	ZW CAD	Draughting	2020	2				
6	Bently	STAAD Pro	Structure Design and Analysis	2019	3				
7	Midas IT	MIDAS Civil	Structure Design and Analysis	2020	4				
8	Autodesk	Vehicle Tracking	Swept Path Analisys	2020	2				
9	Autodesk	3Ds Max	Presentation	2020	2				
10	Definitics Software Solutions, USA	Road Bounce	Ride Quality Management Software (IRI)	1.0.2	1				
11	Logiroads, France	Logiroads	Road Inventry & Condition (Mobile App)	V 3.3	1				
12	Logiroads, France	Logiroads	Road Inventry & Condition (Desktop Software)	V 3.9.7	1				
13	Rubicon Solutions	Rubicon	Cloud based Pavement Design Software	V 2.0	1				
14	Windows	MS-Office		2019	1				
Project I	Project Management:								
15	Udemy Inc.	Primavera Project Planner	Project Management						
16	Autodesk	Naviswork	Building Information Modelling	2020	2				



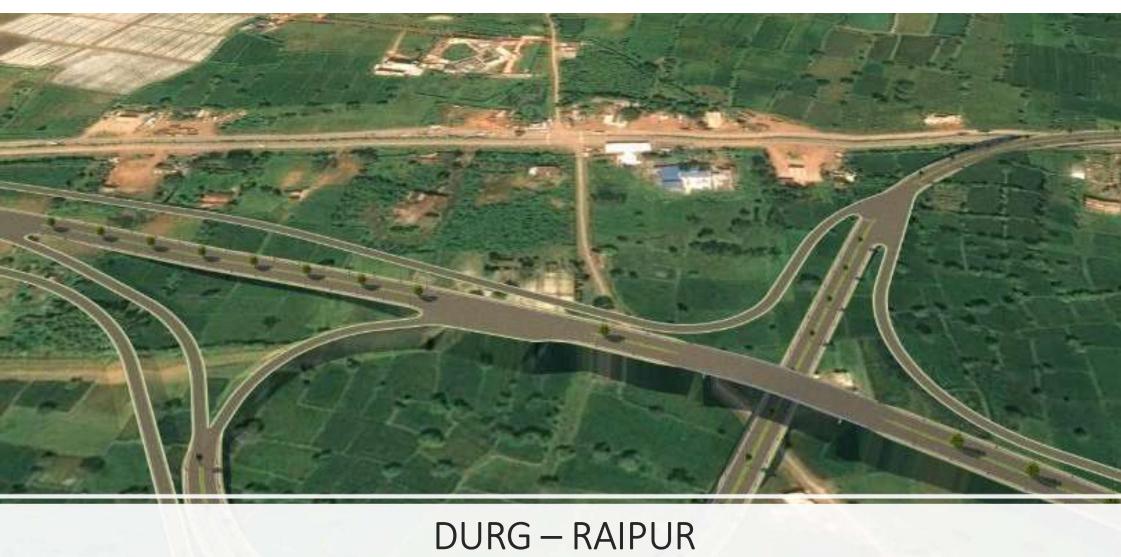




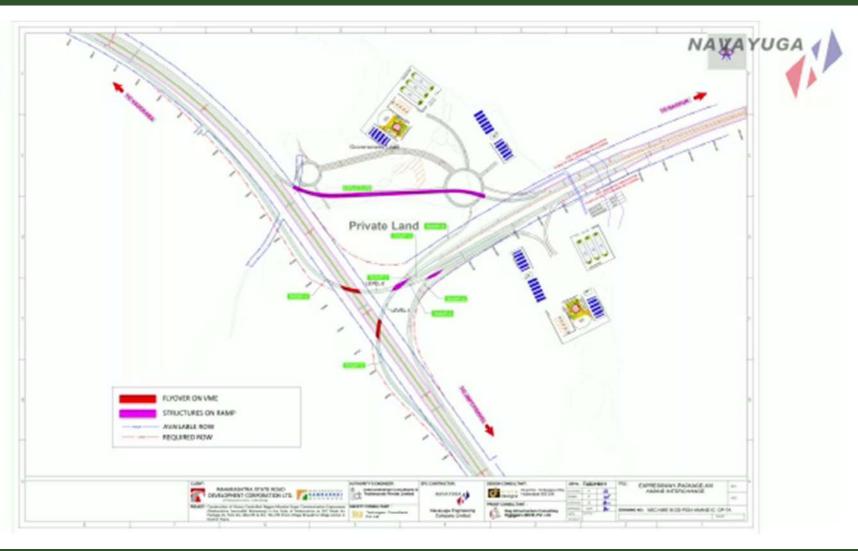




### CONNECTIVITY TO MOPA AIRPORT

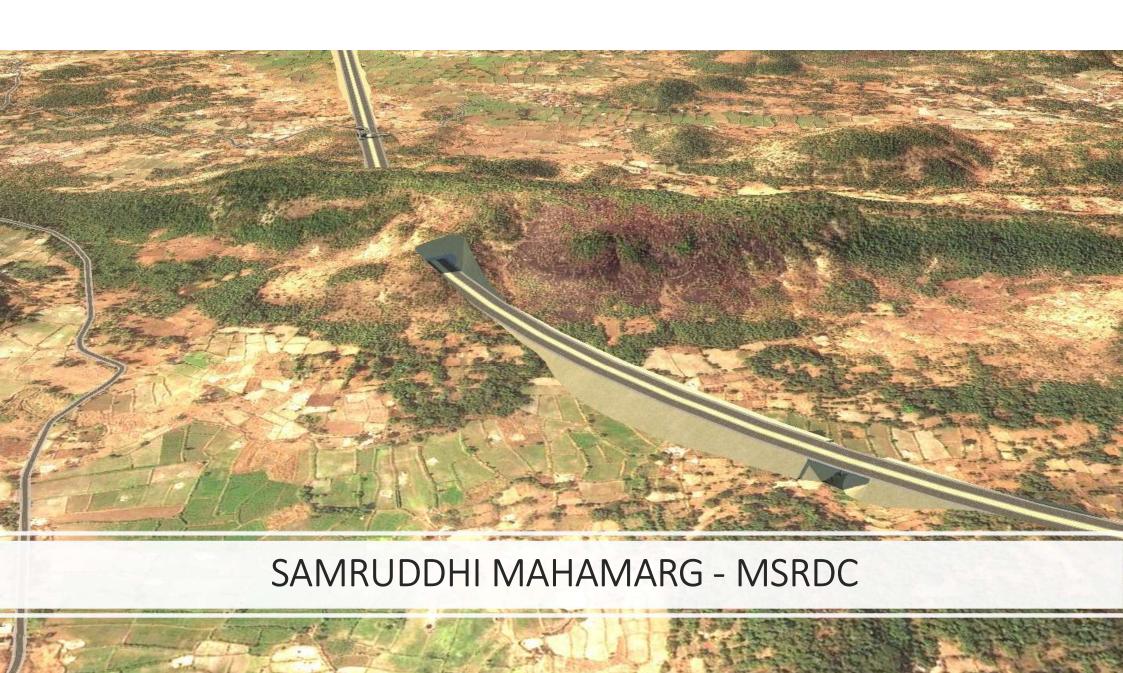


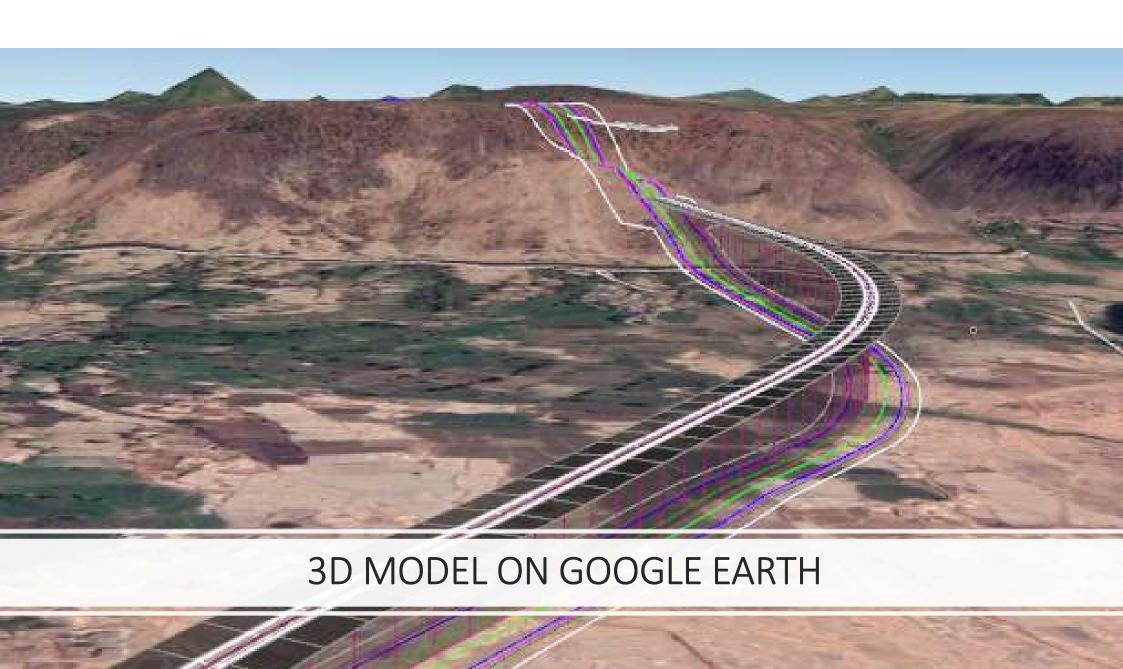


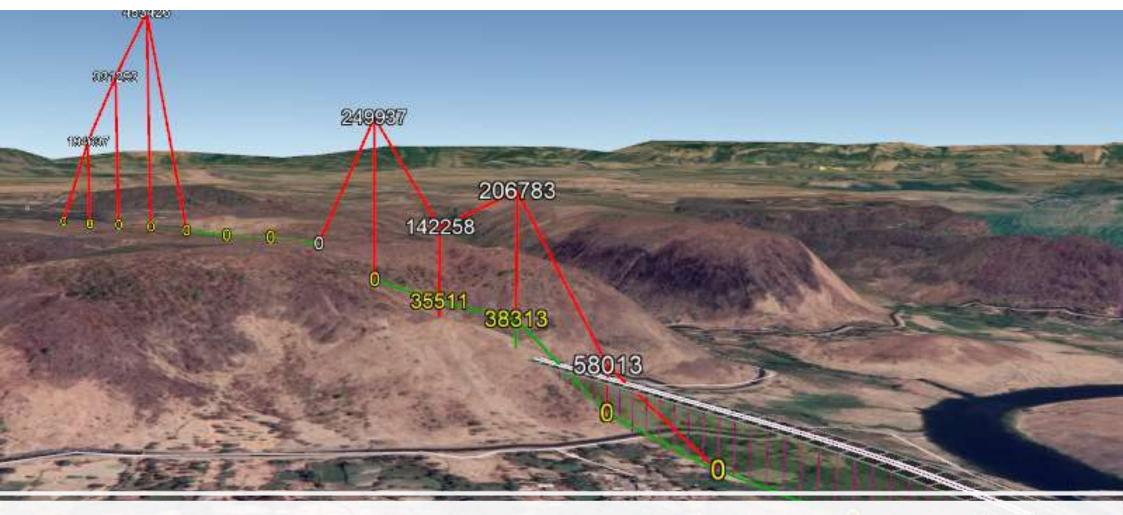




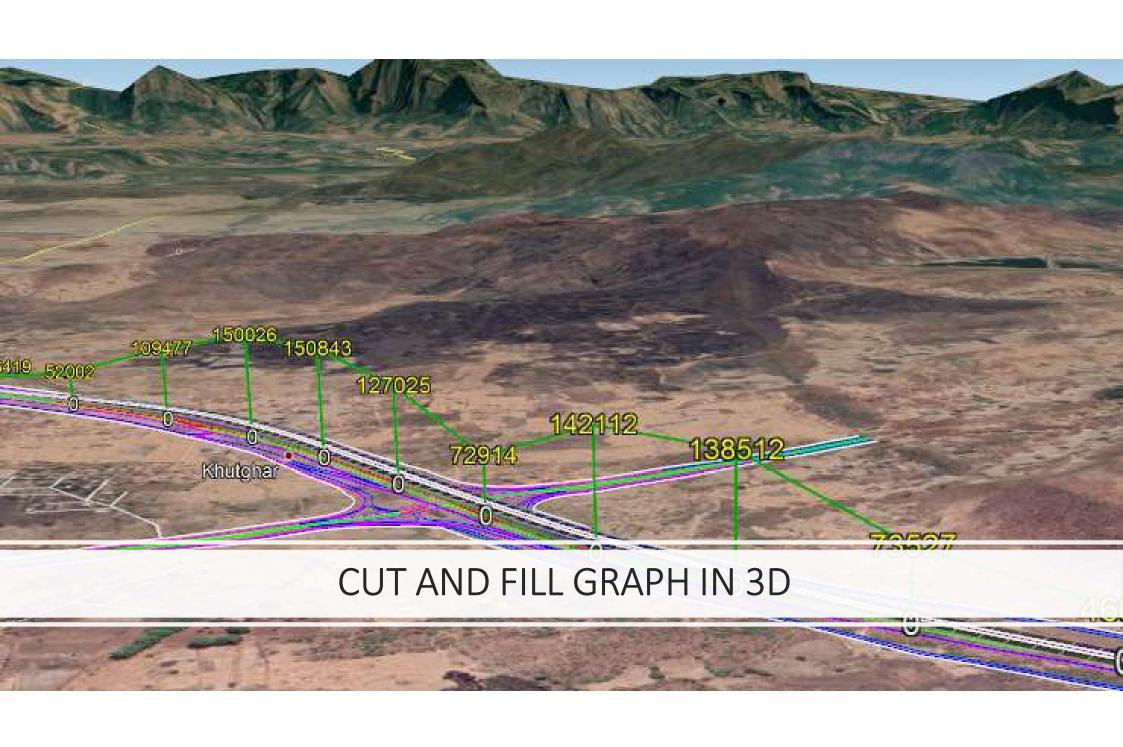




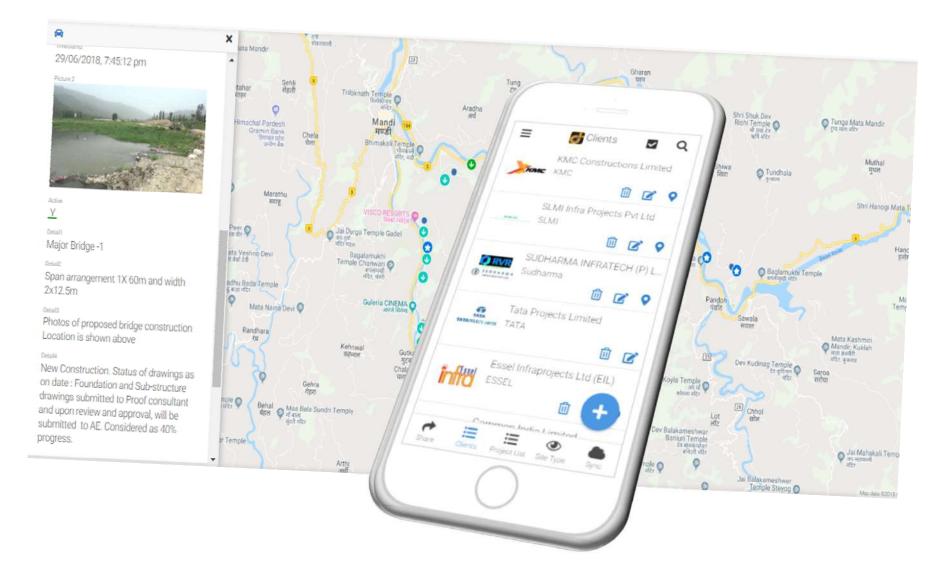




CUT AND FILL MASSHAUL DIAGRAM IN GOOGLE EARTH



## PROJECT MONITORING



### DESIGN MANAGEMENT



