A REPORT ON THE LOGISTICS EFFICACY OF INDIA ELECTRONICS MANUFACTURING CENTERS

A MAIT Analysis

India's apex Industry body empowering IT, Telecom & Electronics Hardware.

Vision 2030: Develop India into a global hub in electronic H/W design and manufacturing.

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Research Brief

Introduction:

Through this report we want to analyze the efficacy of the EMCs and major electronic manufacturing centers (as per table 0 below) from a perspective of their location and resulting competitiveness in logistics.

Target Audience:

Electronic Hardware industry-both existing and those looking to invest, Policy makers, logistics industry.

Objective:

To bring out a paper that throws light on EMCs in the perspective of,

1) Its proximity to domestic raw materials source. If raw material is imported, then the import export point becomes the source location.
2) Quality of connectivity to raw material source.
3) Its proximity to domestic finished product market. If finished product market is exported, then the import export point becomes the source location.
4) Quality of connectivity to finished product market.
5) Its proximity to manpower source (Nearest Habitation Centre).
6) Quality of connectivity to manpower source.
7) Health and vibrancy of the EMC in terms of,
   a) no. of companies and health of companies.
   b) The type of electronic industries in the EMC (specialized or general-purpose EMC).
   c) Amount of money invested in EMC

Note: Yellow highlighted points are still work in progress.

Product and Time Scope:

1) Electronic Hardware product, sub-assemblies and components including the mechanics.
2) The Time scope of the report data is status as of date.

Committed future investments.

Methodology:

This research report will be based on Bharatmala-sagarmala secondary research done by MAIT.

a) Table 0 – Other major electronic manufacturing locations.
b) Table 1 - compile the list of EMCs in a table with the stated specialization and as is status.
c) Table 2 -compile the list of EMCs in a table with its location.
d) Table 1&2_a: Total land (Net land listing in hectare) allotted for Electronics Hardware industry
e) Table 3a – The location of the domestic source of raw materials for the industry located in the EMC.
f) Table 3b – The location of the foreign source of raw materials for the industry located in the EMC. (Further divided into Table 3b.1 and Table 3b.2)
g) Table 3c – Table of types of raw materials for a product.
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k) Table 4c – Top 5 India Airports and seaports.
l) Table 4d – Top 30 Foreign ports (Airports, seaports or maybe ICD).
m) Table 4e – List of countries to whom India Exports electronics Goods.
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o) Table 5a - giving Nearest Habitation Centre to EMC locations.
p) Table 5b - Nearest Habitation Centre to EMH locations.
q) Table 5c - Projected population in Metro cities (2022).
r) Graph 1: Map with location of EMCs and India's Import-Export ports (air and sea).
s) Graph 2: Map of EMCs with arterial link to India's Export-Import ports (air and sea).
t) Graph 3: The location of the domestic source of raw materials [SME clusters as per UNIDO] and EMCs locations
u) Graph 4: The location of the domestic markets for the finished products [Major city or towns as per high population density]
v) Graph 5: India Map with National corridor, Manufacturing locations (EMC & other locations), India ports and pickup & drop locations
w) Get the production in each EMC (secondary research). How much domestic and exported, (if available).

Analysis and synopsis along with Metrix and their importance ranking.

Table 0: Other major electronic manufacturing locations.

S No	Other Manufacturing Locations	Type (as per MAIT)
1	Sriperumbudur	EMH
2	Sri City	EMH
3	Kolar, Karnataka	EMH
4	Ranjangaon MIDC, Pune	EMH
5	Chinchwad, Pune	EMH
6	Greater Noida	EMH
7	Greater Noida jail road, Greater Noida	EMH
8	Ecotech 1, greater Noida	EMH
9	Tirupathi-I	EMH
10	Tirupathi-II	EMH
11	Hoodi, Bangalore	EMH
Note: EMH is for Electronic Manufacturing Hub		
Source: MAIT		

Table 1 & 2: EMCs and their specialization with locations.

S No	State	Location	Project Name	Sector Identified	Area (In acres)	Date of Final	Project Cost (₹)	Grant In Aid (₹)	Saleable Area (In acres)	Allotted Land (In acres)	No. of Units Allotted Land	Units Operational	Date of Completion
1	Andhra Pradesh	Sathyavedu Mandal, Chittoor	EMC at Satyavedu Mandal, Sri City, A.P (M/s. Sri City Pvt. Ltd.)	Telecom products, IT hardware, Consumer and Industrial Electronics, Set top boxes, Flat screen, LED, Automotive Electronic, Electronics Manufacturing Services, PCB manufacturing and Solar cells & Solar module manufacturers	94	20-Jul-16	56,74,72,176	27,33,70,883	74	70	6	1	31-Mar-22
2	Andhra Pradesh	Tirupati	EMC-I at Tirupathi, A.P (M/s. Sri Venkateswara Mobile & Electronics Manufacturing Hub Pvt.	Mobile manufacturing units, components and accessories etc.	113.27	07-Dec-17	1,04,40,66,458	46,52,96,066	88	85	8	4	30-Jun-22
3	Andhra Pradesh	Yerpedu Mandal, Chittoor	EMC-II at Vikruthamala, Tirupathi, A.P (M/s. A.P. Industrial Infrastructure Corporation-APIIC)	Mobile devices and Telecom Equipment, Consumer Electronics, IT Systems and Hardware, Automotive Electronic, Sub Systems, Medical Electronics Equipment, Industrial Electronics etc.	501.4	02-Aug-17	3,39,80,00,000	1,11,42,00,000	320	282	28	4	28-Feb-22
4	Assam	Kamrup	EMC at Bongora, Assam (M/s. Assam Electronics Development Corporation Ltd.-AMTRON)	Smart Meter, Solar Products Manufacturing and assembly, IOT and Network Products etc.	100	01-Feb-18	1,19,84,77,195	50,00,00,000	41	8	6	0	30-Sep-21

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S No	State	Location	Project Name	Sector Identified	Area (In acres)	Date of Final	Project Cost (₹)	Grant In Aid (₹)	Saleable Area (In acres)	Allotted Land (In acres)	No. of Units Allotted Land	Units Operational	Date of Completion
5	Chhattisgarh	Raipur	EMC at Naya Raipur, Chhattisgarh (M/s. Chhattisgarh State Industrial Development Corporation Ltd.-CSIDC)	Manufacturing of LED products, solar products, mobile phones and consumer electronics.	116.48	07-Jan-16	1,03,88,00,000	43,07,71,114	56	31	25	4	31-May-22
6	Goa	North-Goa	EMC at Tuem, Pernem, Goa (DoIT, Government of Goa)	Consumer electronics products, Medical electronic equipment, Telecom products and equipment, Mobile devices, Industrial electronics products	147.55	03-Mar-17	1,61,32,35,150	73,77,50,000	67	0	0	0	30-Jun-22
7	Gujrat	Kutch	EMC at Mundra, Gujarat (M/s. Mundra Solar Technopark Private Limited-MSTPL)	Solar Photovoltaic Cell	631.38	04-Jul-16	7,45,09,00,000	3,15,69,00,000	360	336	11	3	31-Dec-21
8	Jharkhand	Saraikela-Kharsawan	EMC at Adityapur, Jharkhand (M/s. Adityapur Industrial Area Development Authority -AIADA)	Automotive Electronics	82.49	22-Sep-15	97,88,00,000	41,48,00,000	55	22	30	0	31-Mar-22
9	Karnataka	Mysore	CFC at Mysore, Karnataka (M/s. Mysore ESDM Cluster)		1.5	15-Sep-15	48,52,69,899	32,31,00,000	0	0	0	0	31-Mar-22
10	Kerala	Ernakulam	EMC at Kakkanad, Kerala (M/s. Kerala Industrial Infrastructure Development Corporation -KINFRA)	Medical Electronics, power electronics and consumer electronics	66.87	24-Aug-16	1,40,01,00,000	50,00,00,000	47	52	5	0	30-Sep-20
11	Madhya Pradesh	Bhopal	EMC at Badwai-Bhopal, M.P. (M/s. Madhya Pradesh State Electronics Development Corporation Ltd.-MPSEDC)	ESDM (Telecom and IT Hardware)	50	25-Aug-14	47,19,46,298	20,86,46,599	32	38	51	1	31-Mar-22

Table 1 & 2: EMCs and their specialization with locations.

		Table 1 & 2											
S No	State	Location	Project Name	Sector Identified	Area (In acres)	Date of Final	Project Cost (₹)	Grant In Aid (₹)	Saleable Area (In acres)	Allotted Land (In acres)	No. of Units Allotted Land	Units Operational	Date of Completion
12	Madhya Pradesh	Jabalpur	EMC at Purva-Jabalpur, M.P (M/s. Madhya Pradesh State Electronics Development Corporation Ltd.-MPSEDC)	ESDM (Solar and industrial Electronics)	40	25-Aug-14	38,57,24,090	17,75,93,918	20	19	73	8	31-Mar-22
13	Maharashtra	Aurangabad	CFC at Aurangabad, Maharashtra (M/s. Deogiri Electronics Cluster Pvt. Ltd.-DECPL)	1) Electronics Manufacturing Centre, 2) Electronic Design and Test Laboratory 3) Modular Cabinet Manufacturing Centre 4) Innovation and Training Centre	1.98	03-Mar-17	28,57,19,041	20,58,15,155	0	0	0	0	31-Mar-22
14	Maharashtra	Pune	CFC at Pune, Maharashtra (M/s. MCCIA Electronic Cluster Foundation-MECF)	1) Design centre and rapid prototyping, 2) Test and measurement lab, 3) Surface mount technology (SMT) line, 4) EMI/EMC lab, 5) Environmental testing and certification lab	0.61	13-Dec-17	67,00,10,449	50,00,00,000	0	0	0	0	31-Dec-21
15	Orissa	Khurda	EMC at Bhubaneswar, Odisha (M/s Odisha Industrial Infrastructure Development Corporation-IDCO)	LED products, solar products, mobile phones and consumer electronics	203.37	05-Sep-16	2,00,76,00,000	93,09,00,000	141	21	5	1	30-Jun-22
16	Rajasthan	Alwar	EMC at Karoli IA,Rajasthan (M/s. Rajasthan State Industrial Development & Investment Corporation Ltd.-RIICO)	Mobile Devices, Telecom Equipment, Consumer Electronics, Industrial Electronics etc	121.51	15-Dec-17	78,98,26,138	31,67,96,689	84	37	28	1	31-Mar-22

Table 1 & 2: EMCs and their specialization with locations.

		Table 1 & 2											
S No	State	Location	Project Name	Sector Identified	Area (In acres)	Date of Final	Project Cost (₹)	Grant In Aid (₹)	Saleable Area (In acres)	Allotted Land (In acres)	No. of Units Allotted Land	Units Operational	Date of Completion
17	Rajasthan	Bhiwadi	EMC at Salarpur IA, Rajasthan (M/s. ELCINA Electronics Manufacturing Cluster Pvt. Ltd.-EEMCPL)	Components for electronic products	50.34	15-Sep-15	46,08,83,789	20,24,11,772	30	28	20	3	31-Dec-21
18	Telangana	Hyderabad	EMC at Hyderabad,Telangana (M/s. Telangana State Industrial Infrastructure Corporation Ltd.-TSIIC)	Mobile manufacturing units, consumer electronics, EMC consumables and accessories etc.	603.52	02-Aug-17	6,67,60,33,217	2,52,41,68,251	380	193	22	8	30-Jun-22
19	Telangana	Ranga Reddy	EMC at Maheshwaram,Telangana (M/s.Telangana State Industrial Infrastructure Corporation Ltd.-	LED components, consumables and accessories etc	310.7	08-Aug-17	4,36,97,36,575	1,38,60,50,000	157	10	1	0	31-Aug-21
20	Uttar Pradesh	Greater Noida	EMC at Greater Noida, UP (M/s. TEGNA Electronics Pvt. Ltd.-TEPL)	Mobile Phones and accessories, Point of Sales Systems (POS), Drive Video Recorders, USB Cables, Power Banks, A.c. Adapters, USB, SSD, Memory Cards etc.	99.41	21-Feb-18	1,15,32,56,047	50,00,00,000	87	88	7	0	31-Mar-22
21	West Bengal	South 24 Parganas	EMC at Falta,West Bengal (M/s. West Bengal Electronics Industry Development Corporation Ltd.-WEBEL)	Medical Electronics, industrial electronics, LED lighting (luminaries and chip fabrication), solar PV modules, cells and wafer fabrication, power supply, energy	58.04	04-Feb-16	58,86,00,000	25,64,00,000	33	0	0	0	30-Jun-22
22	West Bengal	North 24 Parganas	EMC at Naihati, West Bengal (M/s. West Bengal Electronics Industry Development Corporation Ltd.-WEBEL)	Consumer electronics Health & medical electronics, industrial electronics, LED lighting solar PV etc.	70	21-Aug-16	58,31,00,000	25,70,00,000	48	0	0	0	31-Aug-21

Source: MEITY

Table 1&2_a: Total land (Net land listing in hectare) allotted for Electronics Hardware industry

S No.	State	Total Area (ha)	Total Area (acre)	% Of total Area (acre)	Cumulative %	EMC locations Area (in acres)	EMC Area as % of total Area
1	TELANGANA	1193.15	2947.08	26.58	26.58	914.22	31.02
2	KARNATAKA	907.71	2242.04	20.22	46.81	1.50	0.07
3	ANDHRA PRADESH	864.22	2134.62	19.26	66.07	708.67	33.20
4	TAMIL NADU	729.81	1802.63	16.26	82.33	0.00	0.00
5	GUJARAT	255.52	631.13	5.69	88.02	631.38	100.04
6	CHHATTISGARH	95.71	236.40	2.13	90.15	116.48	49.27
7	RAJASTHAN	86.08	212.62	1.92	92.07	171.85	80.83
8	Odisha	82.15	202.91	1.83	93.90	203.37	100.23
9	WEST BENGAL	51.82	128.00	1.15	95.06	128.04	100.03
10	MAHARASHTRA	44.37	109.59	0.99	96.04	2.59	2.36
11	ASSAM	40.47	99.96	0.90	96.95	100.00	100.04
12	UTTAR PRADESH	40.23	99.37	0.90	97.84	99.41	100.04
13	MADHYA PRADESH	36.43	89.98	0.81	98.65	90.00	100.02
14	JHARKHAND	33.37	82.42	0.74	99.40	82.49	100.08
15	KERALA	27.06	66.84	0.60	100.00	66.87	100.05
16	Goa		0.00	0.00	100.00	147.55	
Total Electronics Hardware industry allotted land (in Ha.) =		**4488.10**	**11085.61**			**3464.42**	**31.25**
Source: India Industrial Land Bank							

	Large area of total electronics but very less proportion of EMC location out of total area
	Need to check (as EMC area is for CFC area)
	Large area of total electronics but no EMC location in that area

Table 1&2_b: Total land (Net land listing in hectare) allotted for IT and ITeS industry

S No.	State	Area (ha)	Total Area (acre)	% of total Area (acre)	Cumulative %
1	PUNJAB	830.93	2052.40	28.52	28.52
2	TAMIL NADU	780.98	1929.02	26.81	55.33
3	Odisha	555.84	1372.92	19.08	74.41
4	TELANGANA	311.84	770.24	10.70	85.11
5	RAJASTHAN	146.44	361.71	5.03	90.14
6	CHANDIGARH	142.42	351.78	4.89	95.03
7	UTTARAKHAND	71.82	177.40	2.47	97.49
8	GUJARAT	36.92	91.19	1.27	98.76
9	HARYANA	29	71.63	1.00	99.75
10	PUDUCHERRY	7.2	17.78	0.25	100.00
Total land allotted (in Ha.) to IT and ITeS industry =		**2913.39**	7196.07		
Source: India Industrial Land Bank					

Table 3a: Location of domestic source of raw material

S No	Location	Product	District	State
	Table 3a : Location of domestic source of raw material			
1	Wellington, Khanpur	Electric Fans	Kolkata	West Bengal
2	Wazirpur	Electro Plating	North West Delhi	Delhi
3	Virudhunagar	Tin Container	Virudhunagar	Tamil Nadu
4	Varanasi	Electric Fan	Varanasi	Uttar Pradesh
5	Vadodara	Plastic Processing	Vadodara	Gujarat
6	Tiruchirappall i	Engineering Equipment	Tiruchirappalli	Tamil Nadu
7	Taltala, Lenin, Sarani	Mechanical Engineering Equipment	Kolkata	West Bengal
8	Sivakasi	Printing	Virudhunagar	Tamil Nadu
9	Sindhudurg	Copper Coated Wires	Sindhudurg	Maharashtra
10	Shahadara & Vishwasnaga r	Wire Drawing	North East Delhi	Delhi
11	Rohtak	Nuts/ Bolts	Rohtak	Haryana
12	Rajkot	Machine Tools	Rajkot	Gujarat
13	Pune	Electronic Goods	Pune	Maharashtra
14	Pune	Auto Components	Pune	Maharashtra
15	Pithampur	Auto Components	Indore	Madhya
16	Pinjore	Engineering Equipment	Panchkula	Haryana
17	Patiala	Cutting Tools	Patiala	Punjab

S No	Location	Product	District	State
	Table 3a : Location of domestic source of raw material			
18	Parwanoo	Engineering Equipment	Solan	Himachal Pradesh
19	Okhla,Mayap uri, Anand Parbat	Mechanical Engineering Equipment	South, West Delhi	Delhi
20	Okhla, Mayapuri,Nar aina, Wazirpur Badli & G.T.	Auto Components	South,West,Nort h West & North West	Delhi
21	Okhla	Electronic Goods	South East Delhi	Delhi
22	Okhla	Electrical Engineering Equipment	South East Delhi	Delhi
23	Noida	Packaging	Gautam Buddha	Uttar Pradesh
24	Noida	Electrical Engineering Equipment	Gautam Buddha Nagar	Uttar Pradesh
25	Noida	Mechanical Engineering Equipment	Gautam Buddha Nagar	Uttar Pradesh
26	Noida	Plastic Products	Gautam Buddha	Uttar Pradesh
27	Noida	Electronic Goods	Gautam Buddha	Uttar Pradesh

S No	Location	Product	District	State
		Table 3a : Location of domestic source of raw material		
28	Naraina,Okhl a,Shivaji Marg,Najafga rh Road	Rubber Products	West, South, North West	Delhi
29	Naraina,Okhl a, Patparganj	Packaging Material	West,South, East Delhi	Delhi
30	Naraina	Electrical Engineering Equipment	South West Delhi	Delhi
31	Naraina	Electronic Goods	South West Delhi	Delhi
32	Naraina Udyog Nagar & Okhla	Plastic Products	West & South	Delhi
33	Nagpur	Engineering & Fabrication	Nagpur	Maharashtra
34	Mumbai	Plastic Products	Mumbai	Maharashtra
35	Mumbai	Packaging	Mumbai	Maharashtra
36	Mumbai	Engineering Equipment	Mumbai	Maharashtra
37	Mumbai	Machine Tools	Mumbai	Maharashtra
38	Mumbai	Electronic Goods	Mumbai	Maharashtra
39	Mayapuri & Wazirpur	Metal Fabrication	West & North West	Delhi
40	Mandi	Steel Re-rolling	Fatehgarh Sahib	Punjab

S No	Location	Product	District	State
		Table 3a : Location of domestic source of raw material		
41	Machilipatna m	Gold Plating & Imitation	Krishna	Andhra Pradesh
42	Ludhiana	Machine Tools	Ludhiana	Punjab
43	Ludhiana	Electroplating	Ludhiana	Punjab
44	Ludhiana	Forging	Ludhiana	Punjab
45	Ludhiana	Industrial	Ludhiana	Punjab
46	Ludhiana	Auto Components	Ludhiana	Punjab
47	Kottayam	Rubber Products	Kottayam	Kerala
48	Jamshedpur	Engineering & Fabrication	East Singhbhum	Jharkhand
49	Jammu	Steel Re-rolling	Jammu	Jammu & Kashmir
50	Jalna	Engineering Equipment	Jalna	Maharashtra
51	Jaipur	Mechanical Engineering Equipment	Jaipur	Rajasthan
52	Jaipur	Electrical Engineering Equipment	Jaipur	Rajasthan
53	Hyderabad	Electronic Goods	Hyderabad	Andhra

Table 3a : Location of domestic source of raw material				
S No	Location	Product	District	State
54	HMC & Bally Municipal area Sevok Rd	Steel Re-rolling	Howrah	West Bengal
55	Gurgaon	Auto Components	Gurgaon	Haryana
56	Gurgaon	Mechanical Engineering Equipment	Gurgaon	Haryana
57	Gurgaon	Electrical Engineering Equipment	Gurgaon	Haryana
58	Gurgaon	Electronic Goods	Gurgaon	Haryana
59	Ghaziabad	Mechanical Engineering Equipment	Ghaziabad	Uttar Pradesh
60	Ghaziabad	Packaging	Ghaziabad	Uttar Pradesh
61	Firozabad	Glass Products	Firozabad	Uttar Pradesh
62	Faridabad	Engineering	Faridabad	Haryana
63	Faridabad	Auto Components	Faridabad	Haryana
64	Ernakulam	Rubber Products	Ernakulam	Kerala
65	Durg, Rajnandgaon	Steel Re-rolling	Durg, Rajnandgaon, Raipur	Chhattisgarh
66	Durg, Raipur	Castings & Metal Fabrication	Durg, Raipur	Chhattisgarh

Table 3a : Location of domestic source of raw material				
S No	Location	Product	District	State
67	Dewas	Electrical Goods	Dewas	Madhya
68	Cuttack(Jaga tpur)	Engineering & Fabrication	Cuttack	Orissa
69	Coimbatore	Machine Tools	Coimbatore	Tamil Nadu
70	Chennai	Electroplating	Chennai	Tamil Nadu
71	Chennai	Auto components	Chennai	Tamil Nadu
72	Bokaro	Engineering & Fabrication	Bokaro	Jharkhand
73	Bhopal	Engineering Equipment	Bhopal	Madhya Pradesh
74	Bhavnagar	Machine Tools	Bhavnagar	Gujarat
75	Bhavnagar	Plastic Processing	Bhavnagar	Gujarat
76	Bhavnagar	Steel Re-rolling	Bhavnagar	Gujarat
77	Batala	Machine Tools	Gurdaspur	Punjab
78	Barauni	Engineering & Fabrication	Begusarai	Bihar
79	Bangalore	Light Engineering	Bangalore	Karnataka
80	Bangalore	Electronic Goods	Bangalore	Karnataka
81	Bangalore	Machine Tools	Bangalore	Karnataka
82	Balanagar, Jeedimetla & Kukatpally	Machine Tools	Ranga Reddy	Andhra Pradesh
83	Aurangabad	Auto Components	Aurangabad	Maharashtra

Table 3a : Location of domestic source of raw material

S No	Location	Product	District	State
84	Ambala	Scientific Instruments	Ambala	Haryana
85	Ahmednagar	Auto Components	Ahmednagar	Maharashtra
86	Ahmedabad	Auto Parts	Ahmedabad	Gujarat
87	Ahmedabad	Electronic Goods	Ahmedabad	Gujarat
88	Ahmedabad	Machine Tools	Ahmedabad	Gujarat
89	Ahmedabad	Moulded Plastic Products	Ahmedabad	Gujarat
90	Agra	Mechanical Engineering Equipment	Agra	Uttar Pradesh
91	Adityapur	Auto Components	Sarikela- Kharsawan	Jharkhand

Note: 1) Source is UNIDO, 2) Raw material SME industrial clusters.

Table 3b.1: location of the foreign source of raw materials (via Airports) [Electronics items (4 digit HS code bifurcation) imports from RoW (Via Airport)]

S No	Name of Port (Airports)	State, Town or district	Country	Type	Import value ($) (In Thousands)	% Contribution in total imports from Airport
1	Delhi Air	New Delhi	India	Air	1,62,88,175	47.55
2	Madras Air	Chennai, Tamil nadu	India	Air	62,44,948	18.23
3	Bombay Air	Mumbai	India	Air	59,85,634	17.47
4	Bangalore Air	Karnataka	India	Air	47,69,713	13.92
5	Hyderabad Air	Hyderabad	India	Air	5,84,160	1.71
6	Calcutta Air	West Bengal	India	Air	2,62,564	0.77
7	Ahmedabad Air	Gujrat	India	Air	56,810	0.17
8	Cochin Air	Kerala	India	Air	26,854	0.08
9	Goa Air	Goa	India	Air	26,382	0.08
10	Trivandrum Air	Kerala	India	Air	11,060	0.03
11	Jaipur Air	Rajasthan	India	Air	509	0.00
12	Bombay Air-PCCCC	Mumbai	India	Air	254	0.00
13	Pithampur Air	Madhya Pradesh	India	Air	12	0.00
14	Vizag Air	Andhra Pradesh	India	Air	6	0.00
15	Bhubaneswar Air	Orissa	India	Air		0.00
16	Madurai Air	Tamilnadu	India	Air		0.00
17	Mangalore Air	Karnataka	India	Air		0.00
	Total Imports =				3,42,57,082	

Table 3b.2: location of the foreign source of raw materials (via Seaports) [Electronics items (4 digit HS code bifurcation) imports from RoW (Via Seaport)]

S No	Port Name (Sea ports)	State, Town or district	Country	Type	Import value ($) (In Thousands)	% Contribution in total imports from Sea
1	JNPT	Navi Mumbai	India	Sea	37,02,436	50.07
2	Madras Sea	Chennai	India	Sea	31,75,737	42.94
3	Cochin Sea	Kerala	India	Sea	2,10,237	2.84
4	Calcutta Sea	west Bengal	India	Sea	1,19,910	1.62
5	Bombay Sea	Maharashtra	India	Sea	1,09,505	1.48
6	Vizag Sea	Andhra Pradesh	India	Sea	29,537	0.40
7	Tuticorin Sea	Tamilnadu	India	Sea	25,590	0.35
8	Mangalore Sea	Karnataka	India	Sea	13,914	0.19
9	Goa Sea	Goa	India	Sea	8,282	0.11
	Total import value =				**73,95,147**	

Table 3C: Table of types of raw materials for a product

Table 3C Sector Identified	Volume (Low/medium/high)	Passive (R/L/C/PCB)	Semi conductors (analog/digital/hybrid)	Mechanics (metal)	Mechanics (plastic)	Manpower (management)	Manpower (supervisory)	Manpower (shopfloor skilled)	Manpower (R&D and Product Engineering)
Telecom products core	Low	Yes -I & D	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes
Telecom products edge	Medium	Yes-I	Yes-I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes
IT hardware core	Medium	Yes-I	Yes -I	Yes -I	Yes -I	Yes	Yes	Yes	Yes
IT hardware edge	High	Yes-I	Yes-I	Yes -I	Yes -I	Yes	Yes	Yes	Yes
Mobile manufacturing units	High	Yes-I	Yes-I	Yes -I	Yes -I	Yes	Yes	Yes	Yes
Mobile Phones accessories	High	Yes-I	Yes -I	Yes -I	Yes -I	Yes	Yes	Yes	Yes
Mobile Phones componenets	High	Yes-I	Yes -I	No	No	Yes	Yes	Yes	Yes
Smart Meter (energy meter)	High	Yes -I & D	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes
Manufacturing of LED products	High	Yes -I & D	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes
Consumer electronics products	High	Yes-I	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes
Automotive Electronics	Medium	Yes -I & D	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes

I for International, D for domestic

Table 3C: Table of types of raw materials for a product

Table 3C Sector Identified	Volume (Low/medium/high)	Passive (R/L/C/PCB)	Semi conductors (analog/digital/hybrid)	Mechanics (metal)	Mechanics (plastic)	Manpower (management)	Manpower (supervisory)	Manpower (shopfloor skilled)	Manpower (R&D and Product Engineering)
Medical Electronics	Medium	Yes-I	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes
ESD (Telecom and IT Hardware)	Low	Yes-I	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	No	Yes
ESD (Solar and industrial Electronics)	Low	Yes-I	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	No	Yes
Design centre and rapid prototyping	Low	No	No	No	No	Yes	Yes	Yes	Yes
Electronic Test and measuremnet Laboratory	Low	No	No	No	No	Yes	Yes	Yes	Yes
Environmental testing and certification lab	Low	No	No	No	No	Yes	Yes	Yes	Yes
Surface mount technology (SMT) line	High	Yes -I	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes
Components for electronic products	High	No	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes
Industrial Electronics	Medium	Yes -I & D	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes

I for International, D for domestic

Table 3C: Table of types of raw materials for a product

Table 3C Sector Identified	Volume (Low/medium/high)	Passive (R/L/C/PCB)	Semi conductors (analog/digital/hybrid)	Mechanics (metal)	Mechanics (plastic)	Manpower (management)	Manpower (supervisory)	Manpower (shopfloor skilled)	Manpower (R&D and Product Engineering)
Set top boxes	High	Yes -I & D	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes
Flat screen	High	Yes -I & D	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes
LED	High	Yes -I & D	Yes -I	No	No	Yes	Yes	Yes	Yes
LED lighting solar PV	Medium	Yes -I & D	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes
LED lighting luminaries	High	Yes -I & D	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes
LED lighting chip fabrication	High	No	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes
solar PV modules, cells and wafer fabrication	Medium	No	No	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes
power supply	Medium	Yes -I & D	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes
Point of Sales Systems (POS)	Medium	Yes-I	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes
Drive Video Recorders	High	Yes-I	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes
USB Cables	High	No	No	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes
Power Banks	High	Yes -I & D	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes
A.c. Adapters	High	Yes -I & D	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes
SSD	High	Yes-I	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes

I for International, D for domestic

Table 3C: Table of types of raw materials for a product

SSD	High	Yes-I	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes
Memory Cards etc.	High	Yes-I	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes
solar products	Medium	Yes -I & D	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes
power electronics products	Medium	Yes -I & D	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes
IOT Products	Medium	Yes-I	Yes -I	Yes -I & D	Yes -I & D	Yes	Yes	Yes	Yes
Note:		(No means nill or not substantial use)							15

I for International, D for domestic

Table 4A: location of the domestic markets for the finished products of the industry located in the EMC (State wise cities (high populated cities))

State	City_1	City_2	City_3	City_4	City_5
Andhra Pradesh	Visakhapatnam	Vijayawada	Guntur	Nellore	Tirupati
Assam	Guwahati				
Bihar	Patna	Gaya	Muzaffarpur	Purnia	Begusarai
Chandigarh	Chandigarh				
Chhattisgarh	Raipur	Durg-Bhilainagar	Bilaspur	Korba	
Delhi	Delhi				
Gujarat	Ahmedabad	Surat	Vadodara	Rajkot	Bhavnagar
Haryana	Panipat	Rohtak	Yamunanagar	Karnal	Hisar
Jammu and Kashmir	Srinagar				
Jammu Kashmir	Jammu				
Jharkhand	Jamshedpur	Ranchi	Dhanbad	Bokaro Steel City	Deoghar
Karnataka	Bangalore	Mysore	Hubli-Dharwad	Belgaum	Mangalore
Kerala	Kozhikode	Malappuram	Thrissur	Kochi	Thiruvananthapuram
Madhya Pradesh	Indore	Bhopal	Jabalpur	Gwalior	Ujjain
Maharashtra	Mumbai	Pune	Nagpur	Nashik	Aurangabad
Manipur	Imphal				
Meghalaya	Shillong				
Mizoram	Aizawl				
Odisha	Bhubaneswar	Cuttack	Raurkela	Brahmapur	
Puducherry	Puducherry				
Punjab	Ludhiana	Amritsar	Jalandhar	Patiala	Bathinda
Rajasthan	Jaipur	Jodhpur	Kota	Bikaner	Ajmer
Tamil Nadu	Chennai	Coimbatore	Madurai	Tiruppur	Tiruchirappalli
Telangana	Hyderabad	Warangal	Karimnagar	Khammam	Nizamabad
Tripura	Agartala				
Uttar Pradesh	Lucknow	Kanpur	Agra	Meerut	Varanasi
Uttarakhand	Dehradun	Hardwar	Roorkee	Haldwani-cum-kathgodam	
West Bengal	Kolkata	Asansol	Siliguri	Durgapur	English Bazar

Source: UN (World population prospects 2018)

Note: For Table 4a, it is with an assumption that high populated cities spend more on electronics.

Table 4b.1: location of the export ports for the finished products (via Airports) [Electronics items (4 digit HS code bifurcation) Export to RoW (via Airport)]

S No	Name of Port (Airports)	State, Town or district	Country	Type	Export value ($) (In Thousands)	% Contribution in total exports from AIR
1	Bangalore Air	Karnataka	India	Air	10,48,537	27.92
2	Delhi Air	New Delhi	India	Air	9,80,481	26.10
3	Bombay Air	Mumbai	India	Air	8,89,366	23.68
4	Madras Air	Chennai, tamil nadu	India	Air	5,97,066	15.90
5	Hyderabad Air	Hyderabad	India	Air	1,15,930	3.09
6	Ahmedabad Air	Gujrat	India	Air	80,756	2.15
7	Calcutta Air	West Bengal	India	Air	28,330	0.75
8	Cochin Air	Kerala	India	Air	9,266	0.25
9	Bhubaneswar Air	Orissa	India	Air	3,603	0.10
10	Trivandrum Air	Kerala	India	Air	2,604	0.07
11	Goa Air	Goa	India	Air	90	0.00
12	Jaipur Air	Rajasthan	India	Air	26	0.00
13	Madurai Air	Tamilnadu	India	Air	22	0.00
14	Mangalore Air	Karnataka	India	Air	2	0.00
15	Bombay Air-PCCCC	Mumbai	India	Air		0.00
16	Pithampur Air	Madhya Pradesh	India	Air		0.00
17	Vizag Air	Andhra Pradesh	India	Air		0.00
Total Exports =					**37,56,079**	

Table 4b.2: location of the export ports for the finished products (via Seaports) [Electronics items (4 digit HS code bifurcation) Export to RoW (via Seaport)]

S No	Port Name (Sea ports)	State, Town or district	Country	Type	Export value ($) (In Thousands)	% Contribution in total exports from Sea
1	JNPT	Navi Mumbai	India	Sea	9,79,506	78.71
2	Madras Sea	Chennai	India	Sea	1,86,786	15.01
3	Cochin Sea	Kerala	India	Sea	28,705	2.31
4	Calcutta Sea	west Bengal	India	Sea	18,237	1.47
5	Tuticorin Sea	Tamilnadu	India	Sea	16,062	1.29
6	Vizag Sea	Andhra Pradesh	India	Sea	9,075	0.73
7	Goa Sea	Goa	India	Sea	3,360	0.27
8	Bombay Sea	Maharashtra	India	Sea	2,696	0.22
9	Mangalore Sea	Karnataka	India	Sea	23	0.00
Total import value =					12,44,449	

Table 3b_4b.1: location of the import-export ports (via Airports) [Electronics items (4 digit HS code bifurcation) Total trade with RoW (Via Airport)]

S No	Port Name (Airports)	State, Town or district	Country	Type	*Total trade $ (in thousands)	% Contribution in total trade from AIR
1	Delhi Air	New Delhi	India	Air	1,72,68,657	45.43
2	Bombay Air	Mumbai	India	Air	68,75,000	18.09
3	Madras Air	Chennai, tamil nadu	India	Air	68,42,014	18.00
4	Bangalore Air	Karnataka	India	Air	58,18,250	15.31
5	Hyderabad Air	Hyderabad	India	Air	7,00,090	1.84
6	Calcutta Air	West bengal	India	Air	2,90,894	0.77
7	Ahmedabad Air	Gujrat	India	Air	1,37,566	0.36
8	Cochin Air	Kerala	India	Air	36,119	0.10
9	Goa Air	Goa	India	Air	26,472	0.07
10	Trivandrum Air	Kerala	India	Air	13,664	0.04
11	Bhubaneswar Air	Orissa	India	Air	3,603	0.01
12	Jaipur Air	Rajasthan	India	Air	535	0.00
13	Bombay Air-PCCCC	Mumbai	India	Air	254	0.00
14	Madurai Air	Tamilnadu	India	Air	22	0.00
15	Pithampur Air	Madhya Pradesh	India	Air	12	0.00
16	Vizag Air	Andhra Pradesh	India	Air	6	0.00
17	Mangalore Air	Karnataka	India	Air	2	0.00
Total Trade =					3,80,13,161	
	For Major ports					

*Total trade means sum of electronics import and exports in FY 20-21.

Table 3b_4b.2: location of the import-export ports (via Seaports) [Electronics items (4 digit HS code bifurcation) Total trade with RoW (Via Seaport)]

S No	Port Name (Sea ports)	State, Town or district	Country	Type	*Total trade $ (in thousands)	% Contribution in total trade from Sea
1	JNPT	Navi Mumbai	India	Sea	46,81,943	54.19
2	Madras Sea	Chennai	India	Sea	33,62,523	38.92
3	Cochin Sea	Kerala	India	Sea	2,38,942	2.77
4	Calcutta Sea	west Bengal	India	Sea	1,38,146	1.60
5	Bombay Sea	Maharashtra	India	Sea	1,12,200	1.30
6	Tuticorin Sea	Tamilnadu	India	Sea	41,652	0.48
7	Vizag Sea	Andhra Pradesh	India	Sea	38,612	0.45
8	Mangalore Sea	Karnataka	India	Sea	13,938	0.16
9	Goa Sea	Goa	India	Sea	11,642	0.13
Total Trade =					86,39,597	
	For Major ports					

*Total trade means sum of electronics import and exports in FY 20-21.

Table 4c: Top 5 Airports and Sea ports of India (Exports and imports by value in FY 20-21)

Seaports

Table 4c: Top 5 Airports and Sea ports (Sea Ports)				
Name of Port	Import value ($) (In Thousands)	Export value ($) (In Thousands)	Total trade $ (in thousands)	Type
JNPT	37,02,436	9,79,506	46,81,943	Sea
Madras Sea	31,75,737	1,86,786	33,62,523	Sea
Cochin Sea	2,10,237	28,705	2,38,942	Sea
Calcutta Sea	1,19,910	18,237	1,38,146	Sea
Bombay Sea	1,09,505	2,696	1,12,200	Sea

Airports

Table 4c: Top 5 Airports and Sea ports (Airports)				
Name of Port	Import value ($) (In Thousands)	Export value ($) (In Thousands)	Total trade $ (in thousands)	Type
Delhi Air	1,62,88,175	9,80,481	1,72,68,657	Air
Bombay Air	59,85,634	8,89,366	68,75,000	Air
Madras Air	62,44,948	5,97,066	68,42,014	Air
Bangalore Air	47,69,713	10,48,537	58,18,250	Air
Hyderabad Air	5,84,160	1,15,930	7,00,090	Air

Table 4d : Top 30 Foreign ports (based on India electronics Export to Rest of the world) (value wise).

S No.	Port of Destination	Country	Value Sum ($) (In Thousands)	% Contribution in India export to RoW	Type of Port
1	Dubai	United Arab Emirates	11,39,688	12.68	
2	WALVIS BAY (NA)	West Africa	4,88,970	5.44	Sea
3	Frankfurt	Germany	4,75,752	5.29	
4	New York	United States of America	2,88,215	3.21	
5	Heathrow	United Kingdom	2,55,938	2.85	Air
6	Moskva	Russia	1,83,004	2.04	Air
7	Beijing	China	1,79,996	2.00	
8	Jebel Ali	United Arab Emirates	1,74,086	1.94	
9	Tel Aviv	Israel	1,73,047	1.93	
10	Milano	Italy	1,70,391	1.90	
11	Shanghai	China	1,64,644	1.83	
12	Amsterdam	Neitherland	1,62,169	1.80	
13	Paris	France	1,60,747	1.79	Air
14	AMSTERDAM SCHIPHOL	Neitherland	1,32,871	1.48	
15	Madrid	Spain	1,32,623	1.48	
16	Hamburg	Germany	1,16,437	1.30	Air
17	Johannesburg	South Africa	1,00,412	1.12	
18	Istanbul	Turkey	97,922	1.09	
19	Budapest	Hungary	91,782	1.02	Air
20	Houston	United States of America	89,243	0.99	
21	Charles de Gaulle Apt	France	82,365	0.92	Air
22	London	United Kingdom	81,905	0.91	
23	Hanoi	Vietnam	77,299	0.86	
24	Bangkok	Thailand	75,328	0.84	
25	Chicago Ohare Intl	Chicago	66,074	0.74	
26	Savannah	United States of America	64,728	0.72	
27	Lagos	Nigeria	63,896	0.71	
28	Manila	Philippines	62,387	0.69	
29	Bhairawa	Nepal	61,762	0.69	
30	Roissy En France	France	58,429	0.65	

Table 4e - List of countries to where India exports electronics goods (as per 4 digit bifurcation (ch 84, 85, and 90))

Rank	Country	Value (in USD thousand)	% Contribution in India export to RoW
1	United States of America	14,47,629	15.36
2	United Arab Emirates	13,52,292	14.35
3	Germany	6,44,988	6.84
4	China	4,92,931	5.23
5	United Kingdom	4,71,450	5.00
6	France	4,00,365	4.25
7	Netherlands	3,40,151	3.61
8	Hong Kong	2,61,959	2.78
9	Russia	2,55,819	2.71
10	Italy	2,42,702	2.58
11	Singapore	2,12,835	2.26
12	Israel	1,92,583	2.04
13	Spain	1,60,040	1.70
14	Turkey	1,46,655	1.56
15	Nepal	1,43,969	1.53
16	Bangladesh	1,35,193	1.43
17	South Africa	1,34,984	1.43
18	Hungary	1,31,643	1.40
19	Vietnam	1,24,820	1.32
20	Nigeria	1,18,392	1.26
21	Australia	1,14,364	1.21
22	Malaysia	95,077	1.01

Table 4e - List of countries to where India exports electronics goods (as per 4 digit bifurcation)			
Rank	Country	Value (in USD million)	% Contribution in India export to RoW
23	Thailand	86,466	0.92
24	Philippines	71,924	0.76
25	Czechia	69,370	0.74
26	South Korea	66,072	0.70
27	Mexico	60,825	0.65
28	Austria	60,200	0.64
29	Brazil	56,665	0.60
30	Sri Lanka	51,801	0.55
31	Saudi Arabia	50,669	0.54
32	Indonesia	50,145	0.53
33	Kazakhstan	49,309	0.52
34	Belgium	49,270	0.52
35	Bhutan	42,631	0.45
36	Poland	42,482	0.45
37	Japan	42,333	0.45
38	Canada	40,894	0.43
39	Myanmar	40,560	0.43
40	Armenia	39,097	0.41
41	Oman	37,614	0.40
42	Lithuania	34,720	0.37
43	Morocco	29,664	0.31
44	Taiwan	29,017	0.31
Source: DGFT			

Table 4f: List of countries from where India imports electronics goods (as per 4 digit bifurcation (Ch 84, 85 and 90))

Rank	Country	Value (in USD Thousand)	% Contribution in India import from RoW
1	China	2,16,81,685	44.32
2	Hong Kong	82,56,811	16.88
3	Singapore	36,60,301	7.48
4	Vietnam	32,94,944	6.74
5	United States of America	19,88,710	4.07
6	South Korea	19,46,999	3.98
7	Taiwan	14,27,561	2.92
8	Malaysia	11,34,574	2.32
9	Germany	6,84,599	1.40
10	Thailand	6,48,911	1.33
11	Israel	6,24,138	1.28
12	Japan	5,97,494	1.22
13	France	3,79,378	0.78
14	Netherlands	3,41,864	0.70
15	Mexico	3,25,858	0.67
16	United Kingdom	2,88,128	0.59
17	Finland	1,75,917	0.36
18	Ireland	1,64,953	0.34
19	United Arab Emirates	1,54,796	0.32
20	Switzerland	1,14,211	0.23
21	Philippines	1,11,985	0.23
Source: DGFT			

			% Contribution in India import from RoW
Rank	**Country**	**Value (in USD Thousand)**	

Table 4f: List of countries from where India imports electronics goods (as per 4 digit bifurcation)

Rank	Country	Value (in USD Thousand)	% Contribution in India import from RoW
22	Italy	1,03,356.40	0.21
23	Belgium	1,02,372.40	0.21
24	Indonesia	76,384.50	0.16
25	Canada	62,095.50	0.13
26	Sweden	54,237.40	0.11
27	Czechia	46,323.30	0.09
28	Russia	39,678.90	0.08
29	Denmark	38,575.50	0.08
30	Austria	38,243.20	0.08
31	Spain	35,558.40	0.07
32	Australia	31,514.50	0.06
33	Hungary	30,713.30	0.06
34	Sri Lanka	20,444.90	0.04
35	Poland	20,281.30	0.04
36	Turkey	19,895.80	0.04
37	Brazil	19,821.90	0.04
38	Mauritius	15,969.30	0.03
39	Macao	14,839.80	0.03
40	Costa Rica	14,494.10	0.03
41	Bulgaria	12,018.70	0.02
42	Norway	10,605.50	0.02

Source: DGFT

Table 5a: Nearest habitation centre location to EMC locations

S No	Exact location	Project Name	Sector Identified	Nearest Town/City	Total population	Distance from manufacturing location to nearest town	District	Total population	Urban Population	Rural Population	No. of Towns
1	Naihati Town, North 24 Parganas District, West Bengal, India	EMC at Naihati, West Bengal (M/s. West Bengal Electronics Industry Development Corporation Ltd.-WEBEL)	Consumer electronics Health & medical electronics, industrial electronics, LED lighting solar PV etc.	Naihati	217900	4	North 24 Parganas	10009781	5732162	4277619	107
2	Plot No. J/P-38, J 462, and J462/P, Pimpri Industrial Area, Pune, Maharashtra, India	CFC at Pune, Maharashtra (M/s. MCCIA Electronic Cluster Foundation-MECF)	1) Design centre and rapid prototyping, 2) Test and measurement lab, 3) Surface mount technology (SMT) line, 4) EMI/EMC lab, 5) Environmental testing and certification lab	Pimpri Chinchwad	1727692	4	Pune	9429408	5751182	3678226	35
3	Falta Industrial Growth centre, Sector-4 and 5, Ramnagar, district South 24 parganas, west bengal, India	EMC at Falta,West Bengal (M/s. West Bengal Electronics Industry Development Corporation Ltd.-WEBEL)	Medical Electronics, industrial electronics, LED lighting (luminaries and chip fabrication), solar PV modules, cells and wafer fabrication, power supply, energy meter, etc.	Chandpala Anantapathpur	5286	12	South 24 parganas	8161961	2087773	6074188	118
4	Maheshwaram, Ranga Reddy District, Telangana, India	EMC at Maheshwaram,Telangana (M/s.Telangana State Industrial Infrastructure Corporation Ltd.-TSIIC)	LED components, consumables and accessories etc	Turkayamjal	15689	26	Rangareddy	5296741	3719172	1577569	24
5	Cherivi Village, Sathyavedu Mandal, Chittoor district, Andhra Pradesh, India	EMC at Satyavedu Mandal, Sri City, A.P (M/s. Sri City Pvt. Ltd.)	Telecom products, IT hardware, Consumer and Industrial Electronics, Set top boxes, Flat screen, LED, Automotive Electronic, Electronics Manufacturing Services, PCB manufacturing and Solar cells & Solar module	Satyavedu	52979	16	Chittoor	4174064	1231386	2942678	22
6	Kurakalva and Vikruthamala village, Renigunta and Yerpedu Mandal , Chittoor District, Near Airport, Tirupati, Andhra Pradesh, India	EMC-I at Tirupathi, A.P (M/s. Sri Venkateswara Mobile & Electronics Manufacturing Hub Pvt. Ltd.)	Mobile manufacturing units, components and accessories etc.	Renigunta	26031	7	Chittoor	4174064	1231386	2942678	22
7	Vikruthamala Village, Yerpedu Mandal, Chittoor District, Andhra Pradesh, India	EMC-II at Vikruthamala, Tirupathi, A.P (M/s. A.P. Industrial Infrastructure Corporation-APIIC)	Mobile devices and Telecom Equipment, Consumer Electronics, IT Systems and Hardware, Automotive Electronic, Sub Systems, Medical Electronics Equipment, Industrial Electronics etc.	Renigunta	26031	12	Chittoor	4174064	1231386	2942678	22
8	Village Tuta, Sector-22, Naya Raipur, Tehsil Abhanpur, District Raipur, Chhattisgarh, India	EMC at Naya Raipur, Chhattisgarh (M/s. Chhattisgarh State Industrial Development Corporation Ltd.-CSIDC)	Manufacturing of LED products, solar products, mobile phones and consumer electronics.	Raipur	1027264	20	Raipur	4063872	1483289	2580583	0
9	e-City, FabCity, Hyderabad, Telangana, India	EMC at Hyderabad,Telangana (M/s. Telangana State Industrial Infrastructure Corporation Ltd.-TSIIC)	Mobile manufacturing units, consumer electronics, EMC consumables and accessories etc.	Charminar	237594	22	Hyderabad	3943323	3943323	0	3
10	Plot No. P30, Shendra Five Star Industrial Area, Aurangabad District, Maharashtra, India	CFC at Aurangabad, Maharashtra (M/s. Deogiri Electronics Cluster Pvt. Ltd.-DECPL)	1) Electronics Manufacturing Centre, 2) Electronic Design and Test Laboratory 3) Modular Cabinet Manufacturing Centre 4) Innovation and Training Centre	Harsul	4979	20	Arungabad	3701282	1620170	2081112	6
11	Karoli Industrial Area, Bhiwadi, District Alwar, Rajasthan, India	EMC at Karoli IA,Rajasthan (M/s. Rajasthan State Industrial Development & Investment Corporation Ltd.-RIICO)	Mobile Devices, Telecom Equipment, Consumer Electronics, Industrial Electronics etc	Bhiwadi	104921	4	Alwar	3674179	654451	3019728	16

No	Location	EMC	Products	Habitation	Population	Distance	District				
12	SPL-1 Salarpur, Khushkhera, Bhiwadi, Rajasthan, India	EMC at Salarpur IA, Rajasthan (M/s. ELCINA Electronics Manufacturing Cluster Pvt. Ltd.-EEMCPL)	Components for electronic products	Bhiwadi	104921	4	Alwar	3674179	654451	3019728	16
13	Kakkanad Village, Kanayannur Taluk, Ernakulam District, Kerala, India	EMC at Kakkanad, Kerala (M/s. Kerala Industrial Infrastructure Development Corporation -KINFRA)	Medical Electronics, power electronics and consumer electronics	Kakkanad	25531	16	Ernakulam	3282388	2234363	1048025	56
14	Plot No.-360, KIADB, Industrial Area, Hebbal Hootagalli, Mysore, Karnataka, India	CFC at Mysore, Karnataka (M/s. Mysore ESDM Cluster)		Mysore	893062	10	Mysore	3001127	1245413	1755714	19
15	Purva, Jabalpur, madhya pradesh, India	EMC at Purva-Jabalpur, M.P (M/s. Madhya Pradesh State Electronics Development Corporation Ltd.-MPSEDC)	ESDM (Solar and industrial Electronics)	Jabalpur Cantt.	72261	20	Jabalpur	2463289	1440034	1023255	24
16	Badwai, bhopal, madhya pradesh, India	EMC at Badwai-Bhopal, M.P. (M/s. Madhya Pradesh State Electronics Development Corporation Ltd.-MPSEDC)	ESDM (Telecom and IT Hardware)	Bhopal	1798218	12	Bhopal	2371061	1917051	454010	3
17	Infovalley, Bhubaneswar Industrial Area, khordha District, Odisha, India	EMC at Bhubaneswar, Odisha (M/s Odisha Industrial Infrastructure Development Corporation-IDCO)	LED products, solar products, mobile phones and consumer electronics	Khordha	23937	16	khordha	2251673	1084316	1167357	13
18	Village Tunda, Taluka-Mundra, District-Kutch, Gujarat, India	EMC at Mundra, Gujarat (M/s. Mundra Solar Technopark Private Limited-MSTPL)	Solar Photovoltaic Cell	mandvi	51376	20	Kachchh	2092371	728535	1363836	14
19	Plot No.-1, Block-C, Ecotech-VI Industrial Area, Greater Noida, Uttar Pradesh, India	EMC at Greater Noida, UP (M/s. TEGNA Electronics Pvt. Ltd.-TEPL)	Mobile Phones and accessories, Point of Sales Systems (POS), Drive Video Recorders, USB Cables, Power Banks, A.c. Adapters, USB, SSD, Memory Cards etc.	Greater noida	102054	4	Gautam Budha Nagar	1648115	974309	673806	13
20	Bongora (Village), Chayani (Mouza), Palasbari (Revenue Circle), Kamrup (R) (District), Assam, India	EMC at Bongora, Assam (M/s. Assam Electronics Development Corporation Ltd.-AMTRON)	Smart Meter, Solar Products Manufacturing and assembly, IOT and Network Products etc.	Kochpara	7540	6	Kamrup	1517542	142394	1375148	16
21	plot no-301 and 354, Adityapur, Saraikela-Kharsawan District, Jharkhand, India	EMC at Adityapur, Jharkhand (M/s. Adityapur Industrial Area Development Authority -AIADA)	Automotive Electronics	Chota Gamahria	7505	10	Saraikela Kharsawan	1065056	258746	806310	7
22	Tuem Village, Pernem Taluka, North-Goa District, Goa, India	EMC at Tuem, Pernem, Goa (DoIT, Government of Goa)	Consumer electronics products, Medical electronic equipment, Telecom products and equipment, Mobile devices, Industrial electronics products	Parcem	4627	10	North Goa	818008	493081	324927	47

Source: census of India

Source: Census of India [District wise Population]

Note: For Table 5, It is assumed that the highly populated districts nearby EMC location are assumed to be Nearest habitation center.

Table 5b: Nearest habitation centre location to EMH locations

S No	Other Manufacturing Locations	Nearest Town/City	Total population	Distance from manufacturing location to nearest town	District	Total population	Urban Population	Rural Population	No. of towns
				Table 5b: Nearest Habitation centre to EMH locations					
1	Sriperumbudur, tamil nadu	Molachur	8887	5	Kancheepuram	39,98,252	25,38,336	14,59,916	75
2	Sri City	chennai	4646732	75	Chittoor	41,74,064	12,31,386	29,42,678	22
3	Kolar, Karnataka	Malur	40050	16	Kolar	15,36,401	480073	10,56,328	7
4	Ranjangaon MIDC, Pune	Pimpri Chinchwad	1727692	63	Pune	94,29,408	57,51,182	36,78,226	35
5	Chinchwad, Pune	Pimpri	1727692	7	Pune	94,29,408	57,51,182	36,78,226	35
6	Greater Noida	Greater noida	102054	16	Gautam buddha nagar	16,48,115	9,74,309	6,73,806	13
7	Greater Noida jail road, Greater Noida	Greater noida	102054	10	Gautam buddha nagar	16,48,115	9,74,309	6,73,806	13
8	Ecotech 1, greater Noida	Greater noida	102054	12	Gautam buddha nagar	16,48,115	9,74,309	6,73,806	13
9	Tirupathi-I	Tirupati	37968	23	Chittoor	41,74,064	12,31,386	29,42,678	22
10	Tirupathi-II	Tirupati	37968	23	Chittoor	41,74,064	12,31,386	29,42,678	22
11	Hoodi, Bangalore	Dommasan	12610	20	Bangalore	96,21,551	87,49,944	8,71,607	16

Source: MAIT

Table 5c: Projected population in Metro cities (2022)

S No	Metro Cities	Projected population
1	Delhi	3,20,66,000
2	Mumbai	2,09,61,000
3	Calcutta	1,51,34,000
4	Bangalore	1,31,93,000
5	Madras	1,15,03,000
6	Hyderabad	1,05,34,000
7	Ahmadabad	84,50,000
8	Surat	77,84,000
9	Poona	69,87,000
10	Jaipur	41,07,000
11	Calicut	39,21,000
12	Lucknow	38,54,000
13	Malappuram	38,16,000
14	Thrissur	33,51,000
15	Cochin	33,01,000
16	Indore	32,09,000
17	Kanpur	31,90,000
18	Nagpur	29,91,000
19	Coimbatore	29,35,000
20	Thiruvananthapuram	27,93,000
21	Patna	25,29,000

22	Bhopal	25,05,000
23	Agra	23,14,000
24	Kannur	22,86,000
25	Visakhapatnam	22,78,000
26	Vadodara	22,77,000
27	Nashik	21,80,000
28	Vijayawada	21,68,000
29	Kollam	20,26,000
30	Rajkot	19,89,000
31	Ludhiana	19,17,000
32	Madurai	17,99,000
33	Meerut	17,62,000
34	Raipur	17,60,000
35	Benares	17,22,000
36	Jamshedpur	16,61,000
37	Srinagar	16,60,000
38	Aurangabad	16,42,000
39	Tiruppur	16,19,000
40	Jodhpur	15,48,000
41	Ranchi	15,11,000
42	Jabalpur	14,96,000
43	Asansol	14,78,000
44	Kota	14,74,000
45	Gwalior	14,42,000
46	Allahabad	14,39,000
47	Amritsar	14,25,000
48	Dhanbad	13,68,000
49	Bareilly	13,17,000
50	Aligarh	12,79,000
51	Moradabad	12,67,000
52	Mysore	12,61,000
53	Durg-Bhilainagar	12,45,000
54	Bhubaneswar	12,26,000
55	Tiruchirappalli	12,01,000
56	Chandigarh	11,91,000
57	Hubli-Dharwad	11,58,000
58	Gauhati	11,55,000
59	Salem	11,46,000
60	Saharanpur	11,34,000
61	Jalandhar	10,96,000
62	Siliguri	10,92,000
63	Solapur	10,55,000
64	Warangal	10,07,000
65	Dehradun	9,67,000
66	Guntur	8,97,000
67	Bhiwandi	8,90,000
68	Puducherry	8,77,000

69	Firozabad	8,70,000
70	Cherthala	8,37,000
71	Bikaner	8,02,000
72	Nellore	7,95,000
73	Kottayam	7,80,000
74	Amravati	7,78,000
75	Gorakhpur	7,77,000
76	Muzaffarnagar	7,67,000
77	Cuttack	7,63,000
78	Kayamkulam	7,57,000
79	Belgaum	7,52,000
80	Malegaon	7,48,000
81	Mangalore	7,36,000
82	Tirupati	7,29,000
83	Bhavnagar	7,24,000
84	Nanded Waghala	7,22,000
85	Jammu	7,17,000
86	Kurnool	7,06,000
87	Gulbarga	7,03,000
88	Durgapur	6,99,000
89	Jhansi	6,66,000
90	Erode	6,62,000
91	Jamnagar	6,59,000
92	Bokaro Steel City	6,52,000
93	Raurkela	6,41,000
94	Kolhapur	6,35,000
95	Patiala	6,34,000
96	Bilaspur	6,33,000
97	Ajmer	6,30,000
98	Ujjain	6,29,000
99	Mathura	6,18,000
100	Agartala	6,15,000
101	Imphal	6,11,000
102	Sangli	6,02,000
103	Tuticorin	5,95,000
104	Udaipur	5,92,000
105	Vellore	5,90,000
106	Jalgaon	5,89,000
107	Gaya	5,87,000
108	Tirunelveli	5,83,000
109	Panipat	5,72,000
110	Hosur	5,62,000
111	Rajahmundry	5,61,000
112	Bellary	5,46,000
113	Kakinada	5,32,000
114	Davanagere	5,30,000
115	Muzaffarpur	5,29,000

116	Begusarai	5,20,000
117	Purnia	5,15,000
118	Latur	5,02,000
119	Bhagalpur	4,96,000
120	Rohtak	4,88,000
121	Shillong	4,84,000
122	Anantapur	4,74,000
123	Bhilwara	4,74,000
124	Yamunanagar	4,67,000
125	Kadapa	4,66,000
126	Akola	4,59,000
127	Sagar	4,54,000
128	Raniganj	4,53,000
129	English Bazar	4,52,000
130	Hardwar	4,52,000
131	Alwar	4,50,000
132	Rampur	4,44,000
133	Bijapur	4,34,000
134	Korba	4,31,000
135	Baharampur	4,30,000
136	Barddhaman	4,30,000
137	Dhulian	4,30,000
138	Karnal	4,25,000
139	Gandhidham	4,22,000
140	Brahmapur	4,21,000
141	Dhule	4,20,000
142	Ottappalam	4,20,000
143	Karimnagar	4,18,000
144	Junagadh	4,15,000
145	Ahmadnagar	4,12,000
146	Dindigul	4,07,000
147	Anand	3,91,000
148	Bihar Sharif	3,91,000
149	Aizawl	3,87,000
150	Bathinda	3,87,000
151	Shimoga	3,87,000
152	Palakkad	3,85,000
153	Santipur	3,85,000
154	Deoghar	3,84,000
155	Shahjahanpur	3,82,000
156	Roorkee	3,80,000
157	Ichalkaranji	3,78,000
158	Ranipet	3,77,000
159	Maunath Bhanjan	3,76,000
160	Tumkur	3,75,000
161	Parbhani	3,72,000
162	Dewas	3,71,000

163	Karur	3,71,000
164	Morvi	3,68,000
165	Hisar	3,66,000
166	Kanhangad	3,65,000
167	Darbhanga	3,62,000
168	Chandrapur	3,61,000
169	Habra	3,60,000
170	Satna	3,58,000
171	Farrukhabad	3,57,000
172	Khammam	3,56,000
173	Jalna	3,54,000
174	Navsari	3,52,000
175	Haldwani-cum-kathgodam	3,51,000
176	Thanjavur	3,48,000
177	Arrah	3,45,000
178	Nizamabad	3,41,000
179	Kharagpur	3,35,000
180	Hapur	3,34,000
181	Ratlam	3,27,000
Source: United Nations - World Population Prospects		

Graph 1: Map with Manufacturing locations, national corridors, and India's Import-Export ports (air and sea).

India Map with National Corridors, Manufacturing locations (both EMC's and EMH's), and India Ports locations
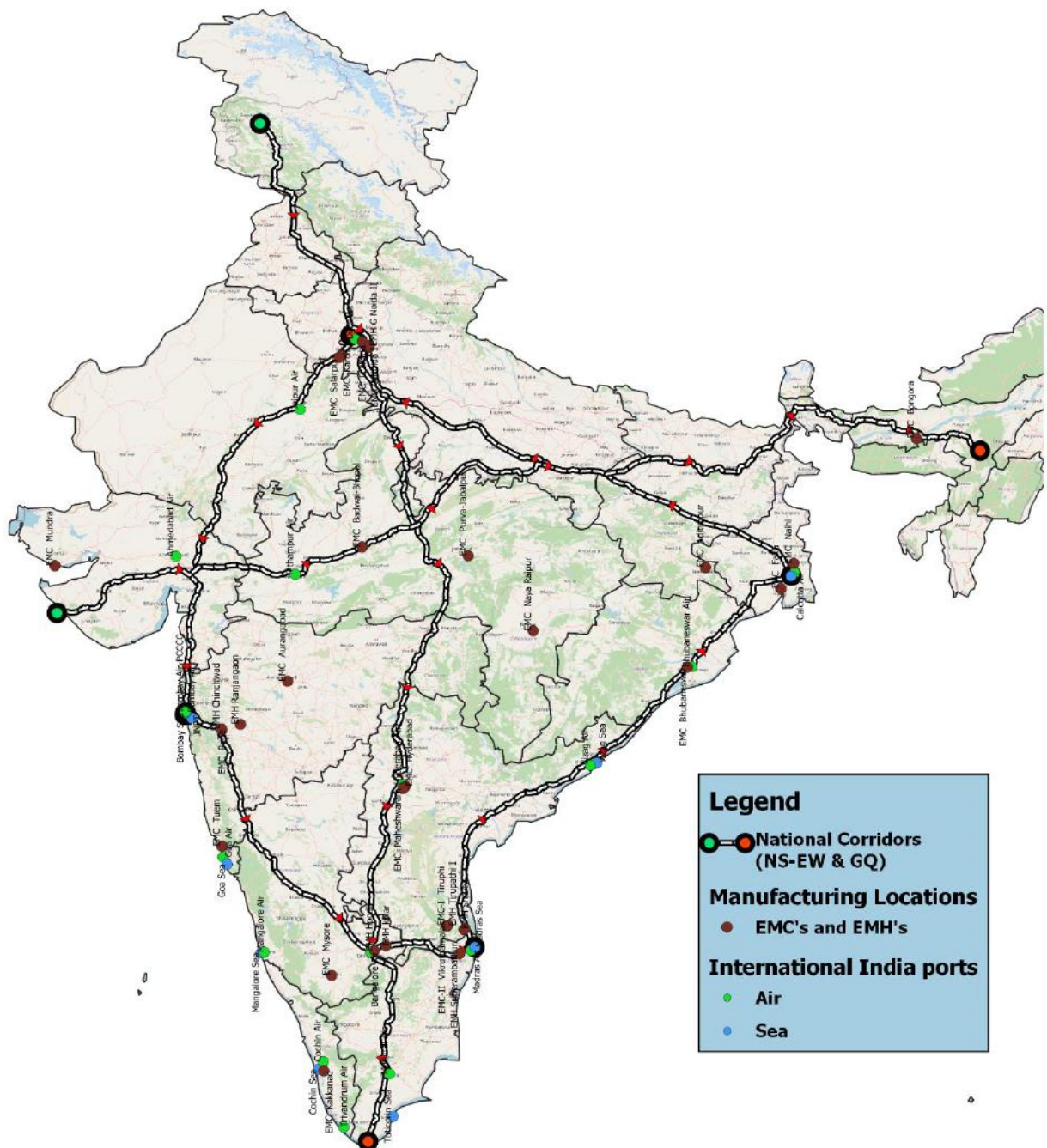
In the above graph, Dark brown dots are used for EMC location, green dots used for import export port location (Airports) and blue dots used for import export port location (Seaports).

Graph 2: Map of EMCs and EMHs locations with arterial link to India's Export-Import ports (air and sea).

There are 22 EMCs and 11 EMHs, so we create 1 image for one location (EMC or EMH) with arterial link to the nearest international import-export ports and major import-export ports.

1) **Karoli EMC:**
   Metrices of logistics connectivity to Import-Export ports:

   Nearest International Airport: **Jaipur Air/Delhi Airport**
   Top two major seaports: **JNPT and Madras Sea**
   Top two nearest major Airports: **Delhi Air and Bombay Air**
   Nearest Arterial Road: **North-West Golden Quadrilateral**

   A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:

   Karoli EMC to Nearest Golden Quadrilateral entry point: The distance from the EMC at karoli to Golden Quadrilateral (North-west GQ) is around 67 to 70 KM. It is a state highway (SH14)(MDR 225).
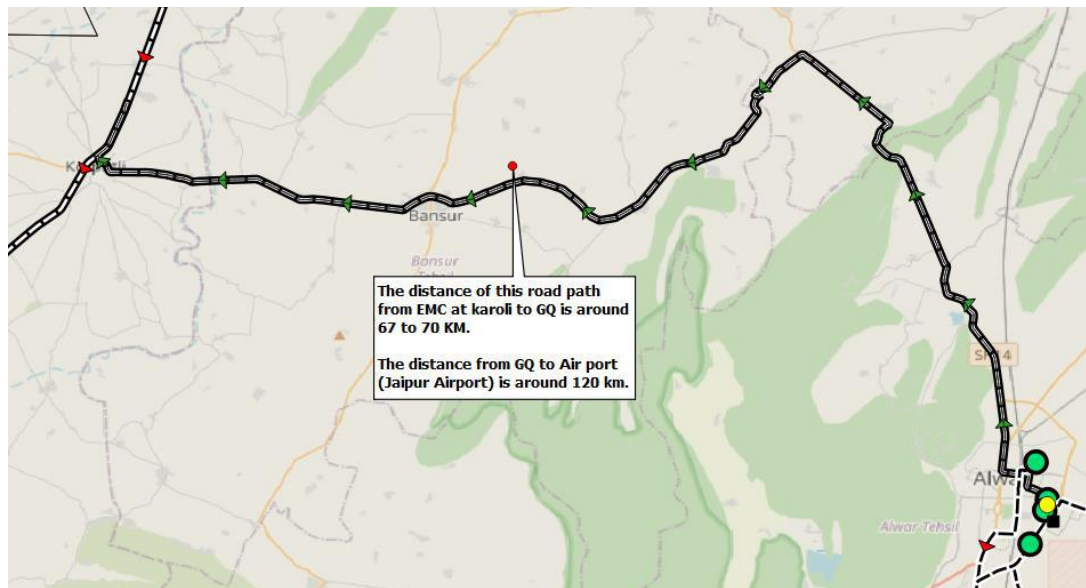
   Karoli EMC to Jaipur Airport (via Arterial link): To reach the nearest port "Jaipur Airport" via Arterial link (GQ) the distance is around 120 km and total distance from EMC at karoli to Jaipur Airport via Arterial link is around 190 km.
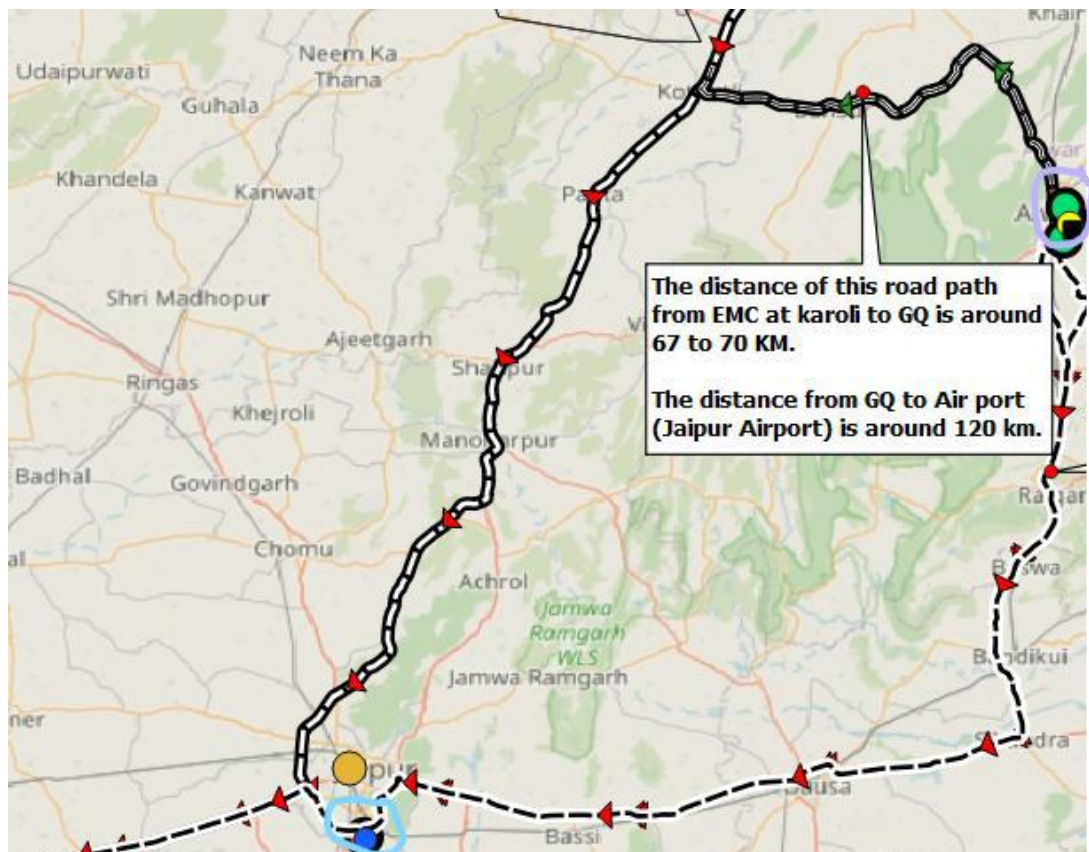
Karoli EMC to Jaipur Airport (alternative way): An alternative way through state highways (SH) from EMC at karoli to Jaipur airport is around 161 KM.
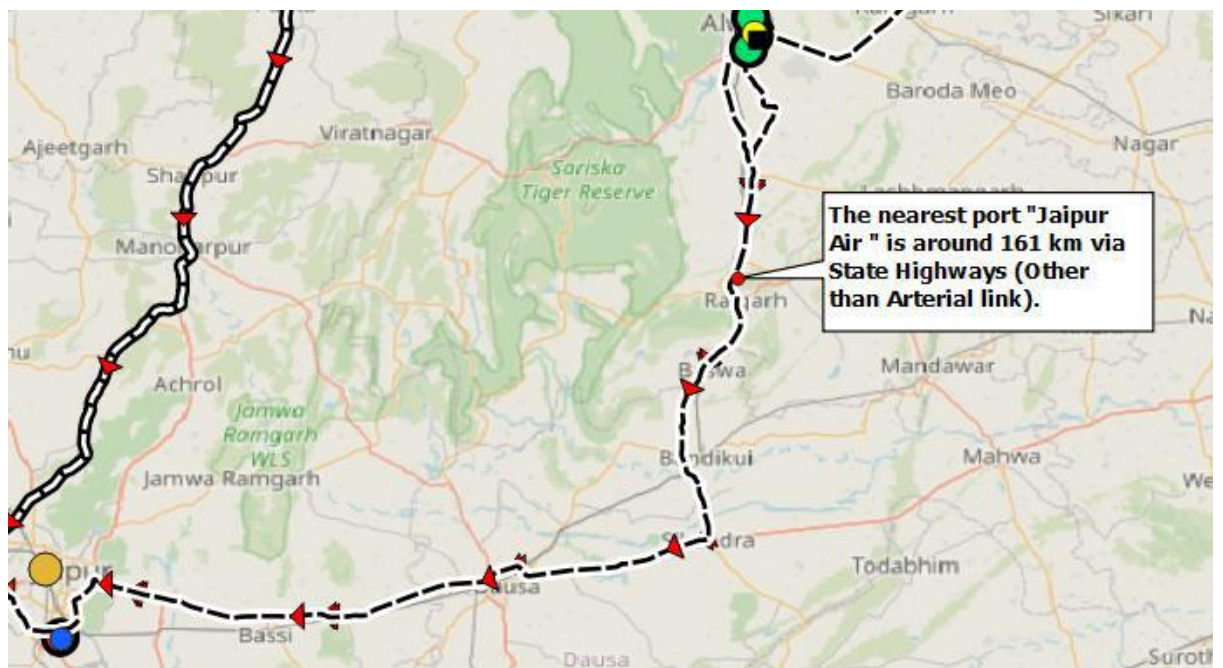
Karoli EMC to Delhi International Airport: The second nearest airport is "Delhi Airport" and the distance from EMC at karoli to "Delhi Airport" is around 155-160 km via other than arterial link (national Highway ()).

The callout boxes on the map read:

> EMC at
> round 11 km
> rt is around
>
> from EMC to
> 35 KM.

> The distance between EMC karoli to Delhi Airport via National highway is around 155 km.
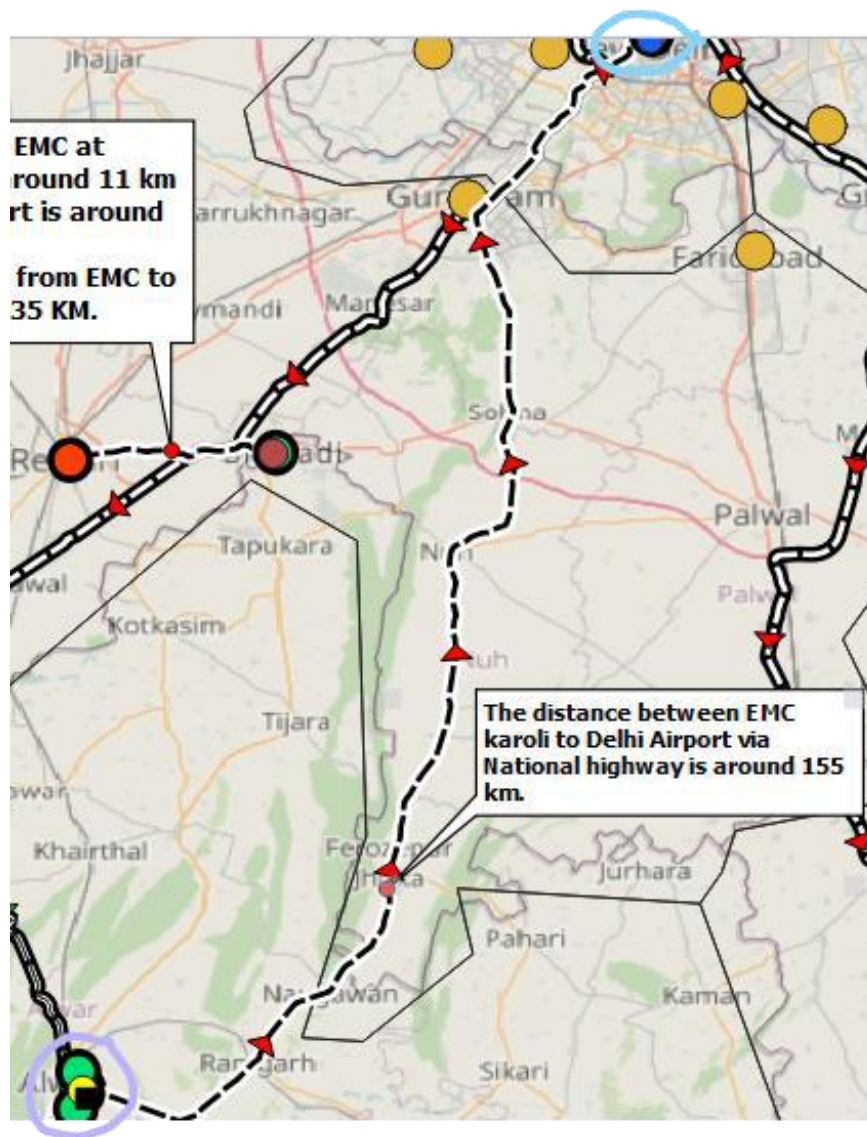
Karoli EMC to Bombay airport: The distance between EMC at karoli and Bombay Air is around 1200 km.

EMC at Karoli (Red dot) to Bombai Airport (Blue dot)
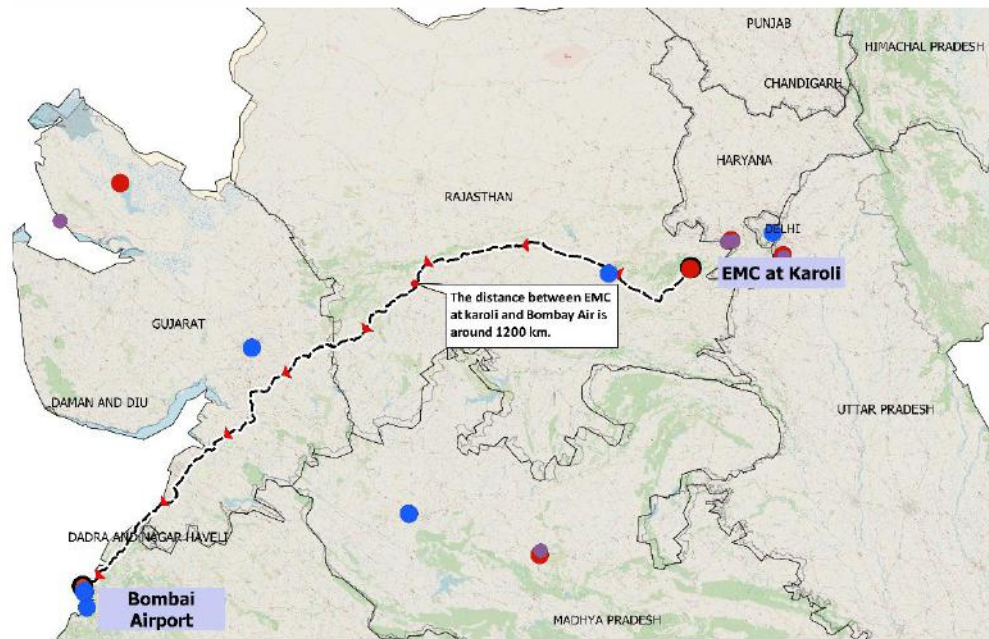
Karoli EMC to Chennai/Madras seaport: The distance between EMC at karoli and Chennai/Madras Seaport is around 2200 km.

EMC at Karoli (Red dot) to Chennai Seaport (Blue dot).
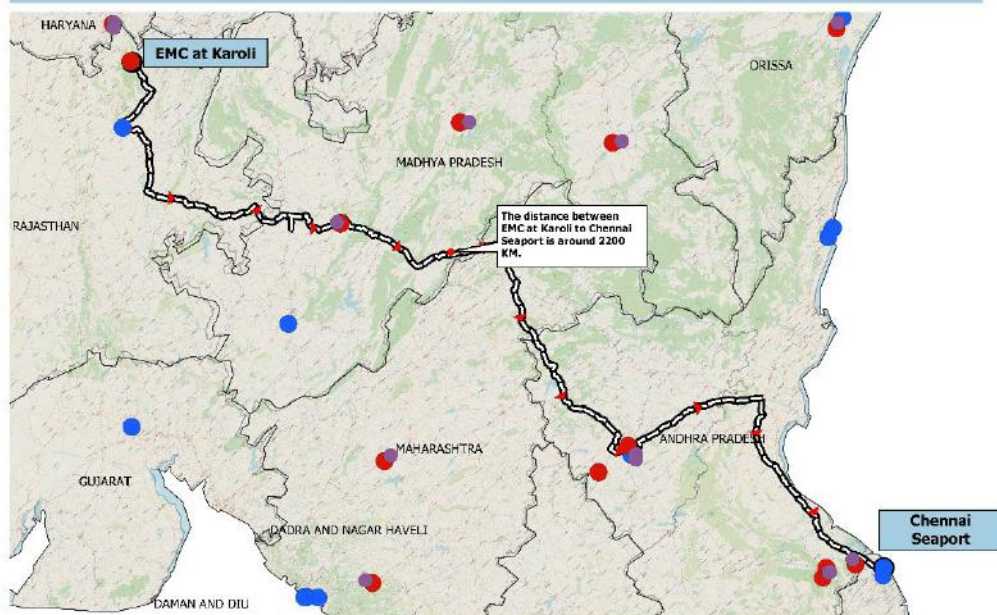
2) **Salarpur EMC:**

Metrices of logistics connectivity to Import-Export ports:

Nearest International Air Port: **Delhi Airport**
Top two major sea ports: **JNPT and Madras Sea**
Top two nearest major Air ports: **Delhi Airport, and Bombay Airport**
Nearest Arterial road: **North-West Golden Quadrilateral**

**A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:**

Salarpur EMC to Golden Quadrilateral: The distance from the EMC at salarpur to Golden Quadrilateral (North-west GQ) is around 10-15 KM.
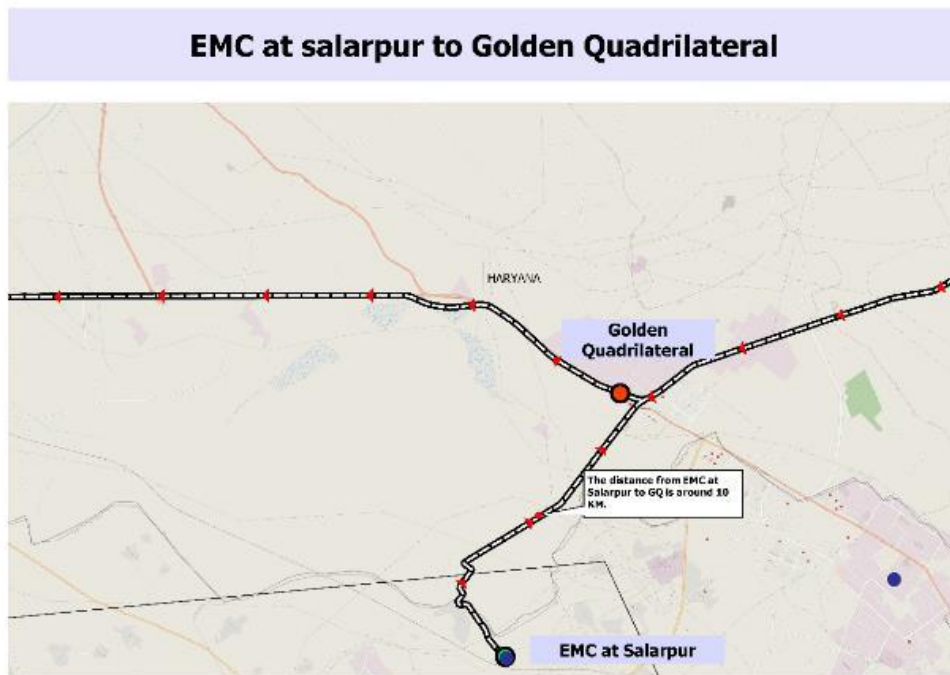
Salarpur EMC to Delhi Airport (Via Golden Quadrilateral): The nearest airport is "Delhi Airport" and the distance from EMC at Salarpur to "Delhi Airport" is around 76 km via arterial link (Golden Quadrilateral (North-west GQ)).
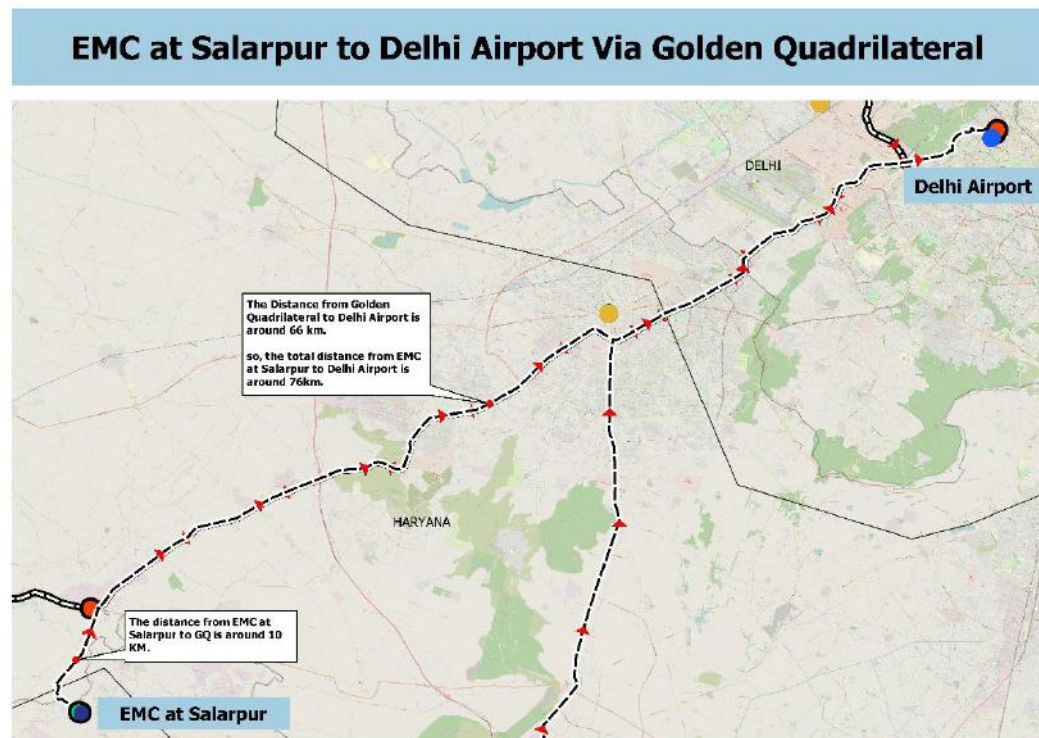
Salarpur EMC to Bombay Airport: The second nearest major port is "Bombay Airport" and the distance from EMC at salarpur to "Bombay airport" is around 1200 km.

EMC at Salarpur to Bombai Airport
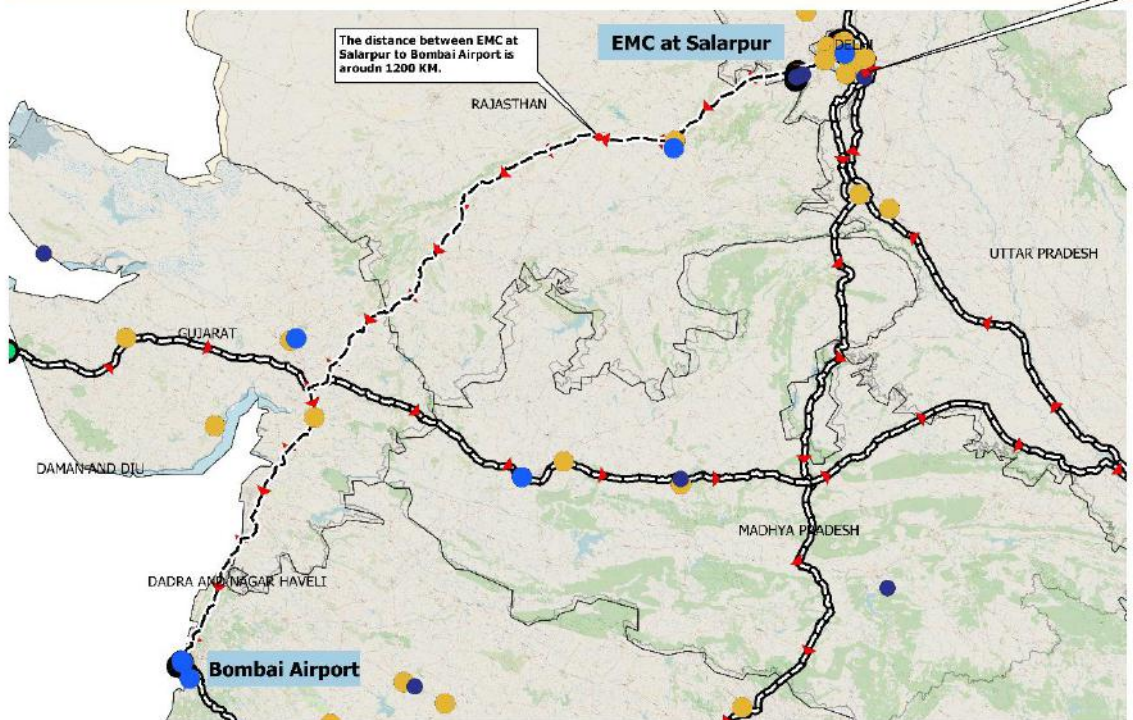
Salarpur EMC to Bombay Seaport: The nearest Sea ports to salarpur EMC are JNPT and Bombay Sea. The distance between EMC at salarpur and Nhava sheva port (close to both JNPT and Bombay Sea) is around 1230 km (nearby to Bombay airport (around 30 km)).

Salarpur EMC to Madras Seaport: The second major port is "Madras/Chennai Seaport". The distance between EMC at salarpur and Chennai seaport is around 2000 km (via N-S corridor).

EMC at Salarpur to Madras Seaport
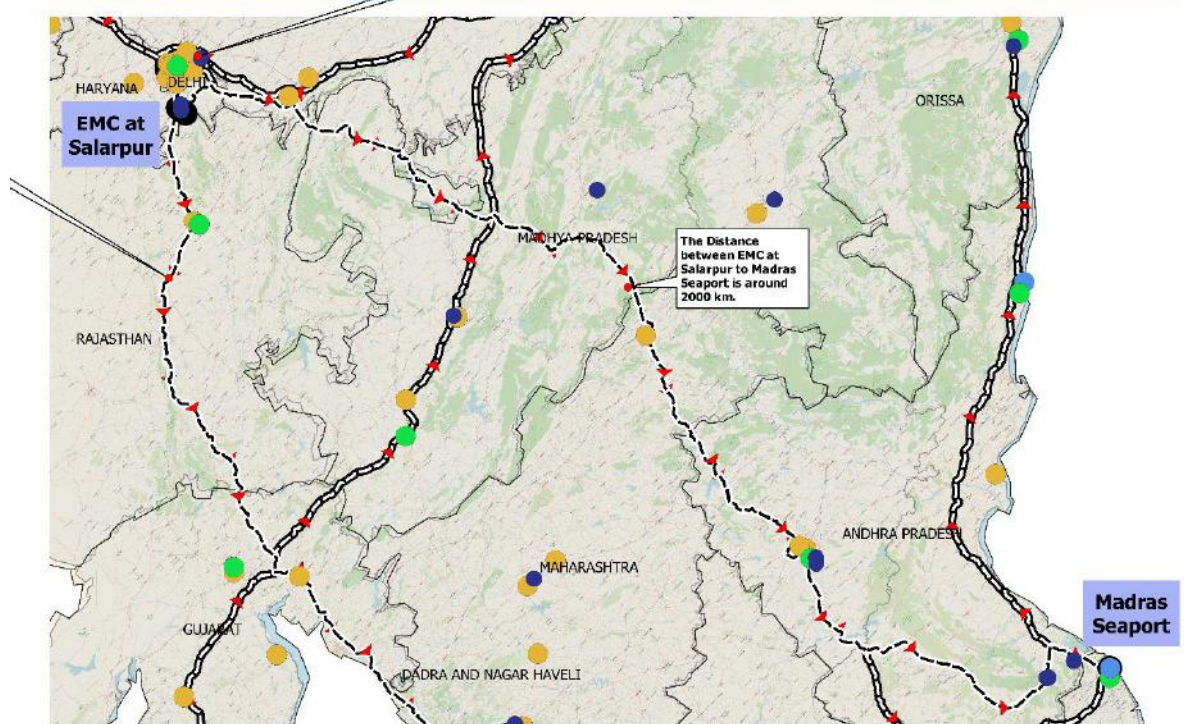
3) **Greater Noida EMC**

Metrices of logistics connectivity to Import-Export ports:

Nearest International Air Port: **Delhi Airport**
Top two major sea ports: **JNPT (Nhava sheva), Chennai sea**
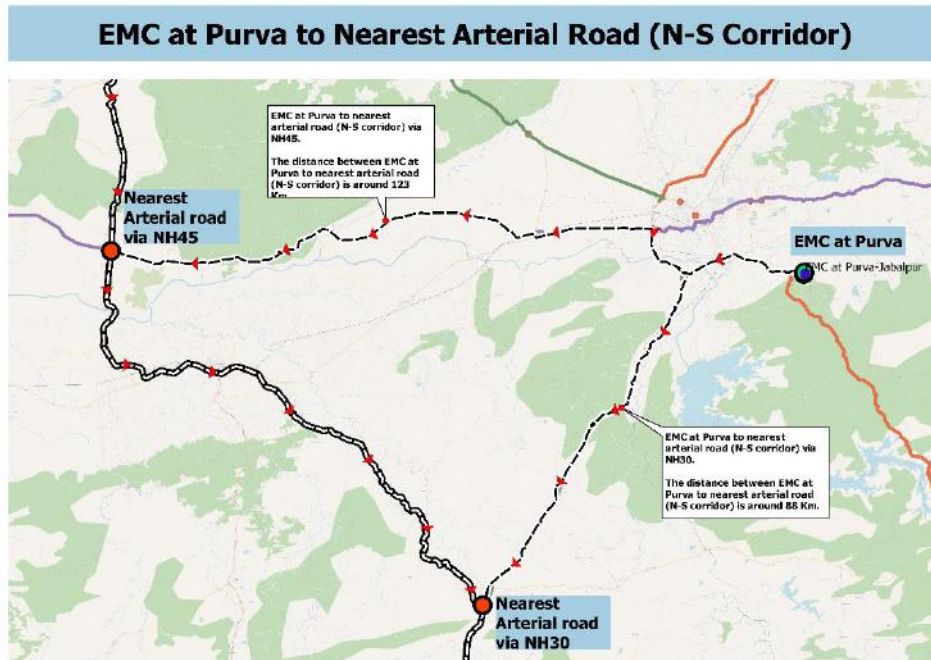Top two nearest major Air ports: **Delhi Airport, Bombay airport**
Nearest Arterial road: **North-East Golden Quadrilateral**

A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:

Greater Noida EMC: The distance from the EMC at Greater Noida to Nearest arterial is around 6 KM. It is an expressway (Yamuna expressway).

EMC at Greater Noida to Nearest Arterial road

Greater Noida EMC to Delhi Airport: The nearest airport is "Delhi Airport" and the distance from EMC at Greater noida to "Delhi Airport" is around 43 km via state highways and expressways.

EMC at Greater Noida to Delhi Airport
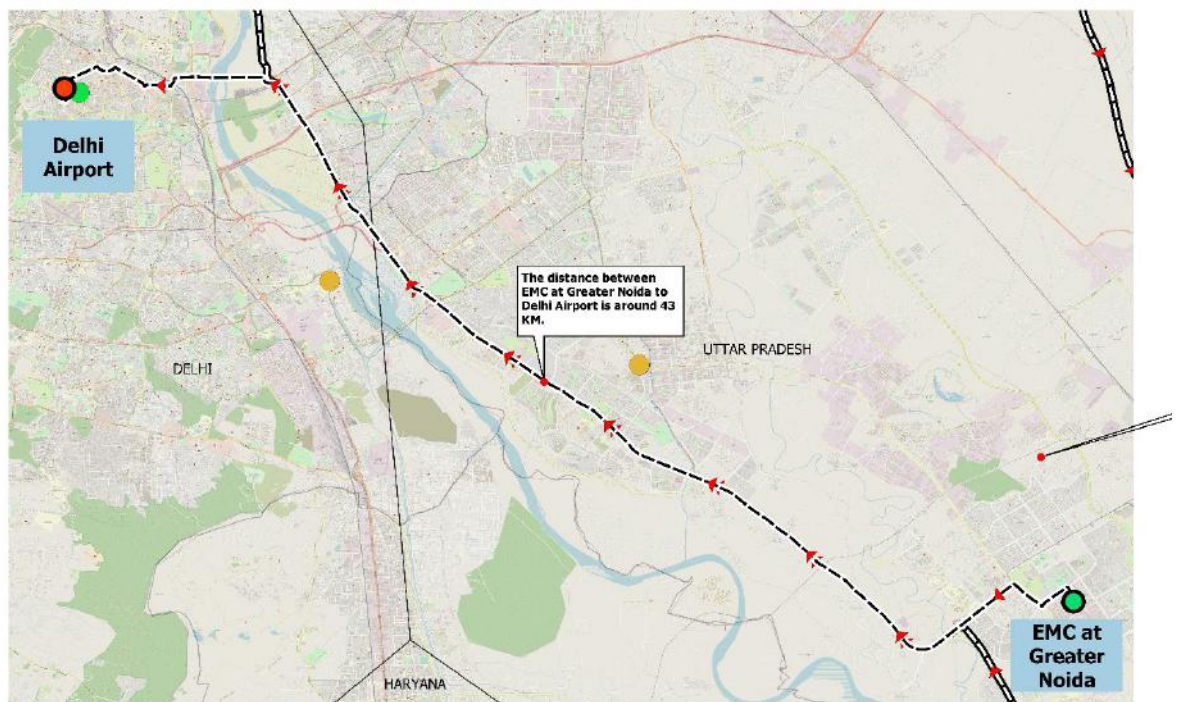
Greater Noida EMC to Bombay Airport: The second nearest major port is "Bombay Airport" and the distance from EMC at Greater Noida EMC to "Bombay airport" is around 1369 km via Arterial link (Golden Quadrilateral).

EMC at Greater Noida to Bombai Airport

The distance between EMC at Greater Noida to Bombai Airport is around 1369 KM.

EMC at Greater Noida

Bombai Airport
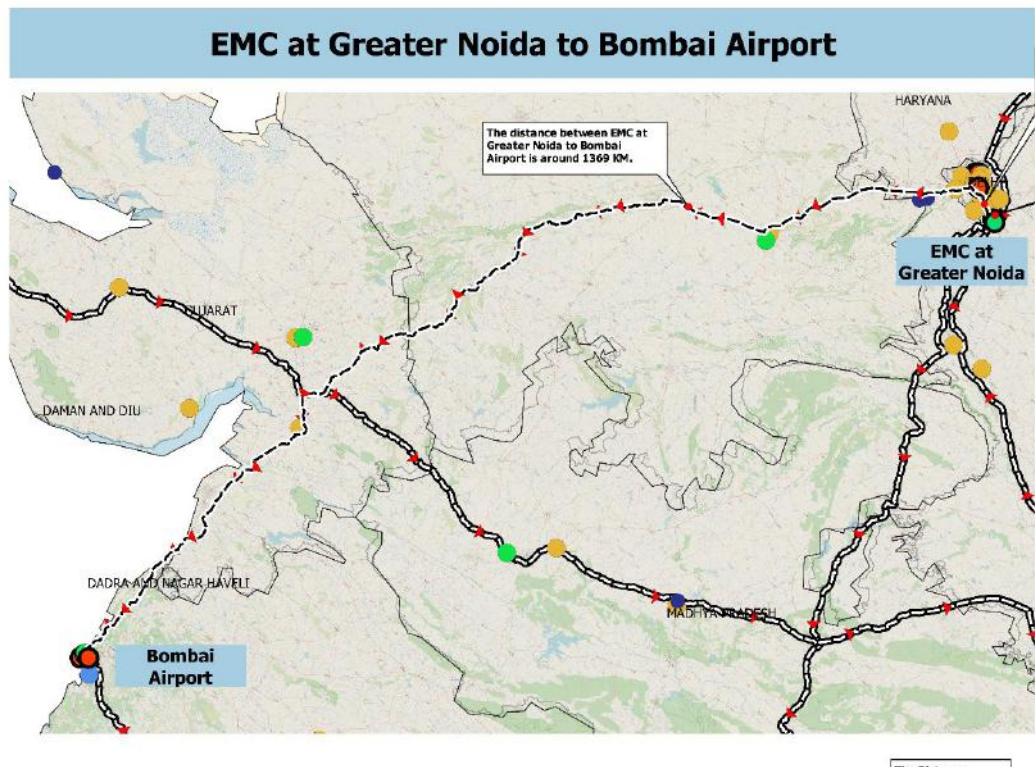
Greater Noida EMC to JNPT: The nearest Major Sea port to Greater noida EMC is JNPT. The distance between EMC at Greater noida and Nhava sheva port (close to both JNPT and Bombay sea) is around 1399 km.

EMC at Greater Noida to Bombai Seaport

The distance between EMC at Greater Noida to Bombai Seaport (JNPT) is around 1399 KM.

EMC at Greater Noida

Bombai Seaport
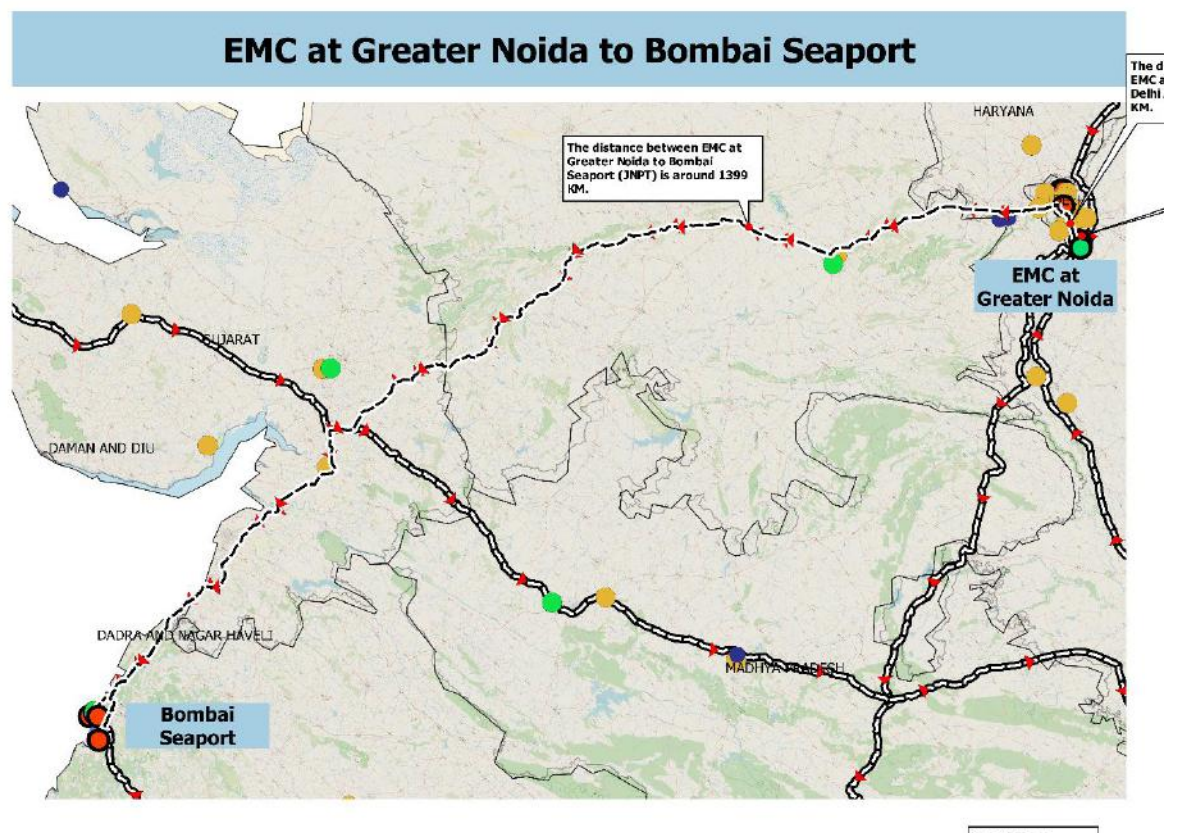
Greater Noida EMC to Madras Seaport: The second Major Sea port is Madras seaport. The distance between EMC at Greater Noida and Madras seaport is around 2029 km.

EMC at Greater noida Madras seaport

The Distance between EMC at Greater noida to Madras Seaport is around 2029 km.
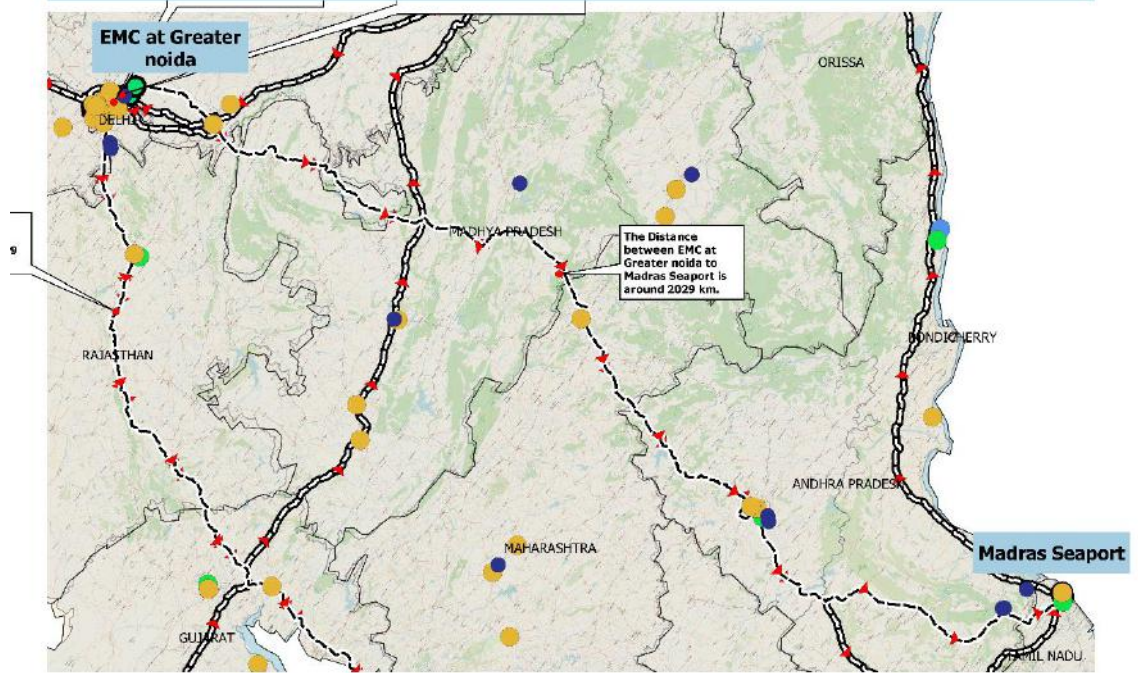
4) **EMC at Falta:**

Metrices of logistics connectivity to Import-Export ports:

Nearest International Air Port: **Calcutta Airport**
Top two major sea ports: **Madras seaport, JNPT**
Top two nearest major Air ports: **Delhi Airport, Madras airport**
Nearest Arterial road: **Golden Quadrilateral (E-S Corridor)**

A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:

Falta EMC to Nearest Arterial: The distance between the EMC at Falta to the nearest arterial (E-S corridor) is around 41 km.

EMC at Falta to Nearest Arterial point

The distance betw
EMC at falta and
calcutta airport is
around 74 km.

The distance between
EMC at Falta to
nearest Arterial link is
around 41 km.

WEST BENGAL

Nearest
Arterial
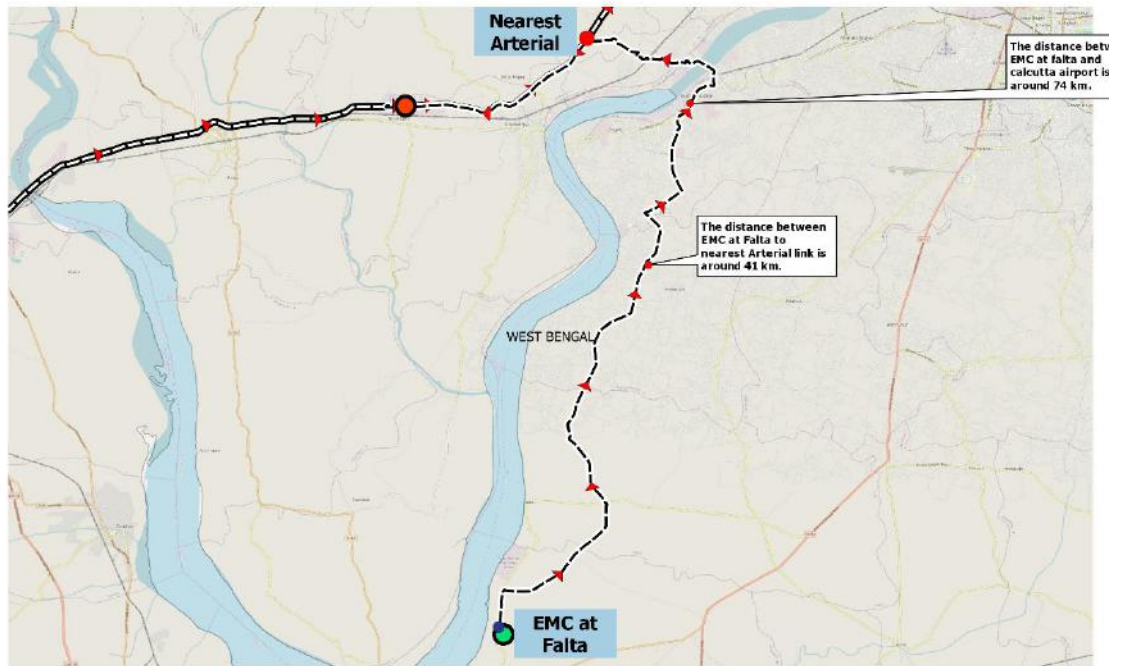
EMC at
Falta

Falta EMC to Calcutta Seaport: The nearest international Seaport to EMC at Falta is Calcutta Seaport. The distance between the EMC at Falta and Calcutta seaport is around 58 km.

EMC at Falta to Calcutta Seaport

The distance
between EMC at falta
and calcutta seaport
is around 58 km.

WEST BENGAL

EMC at Falta
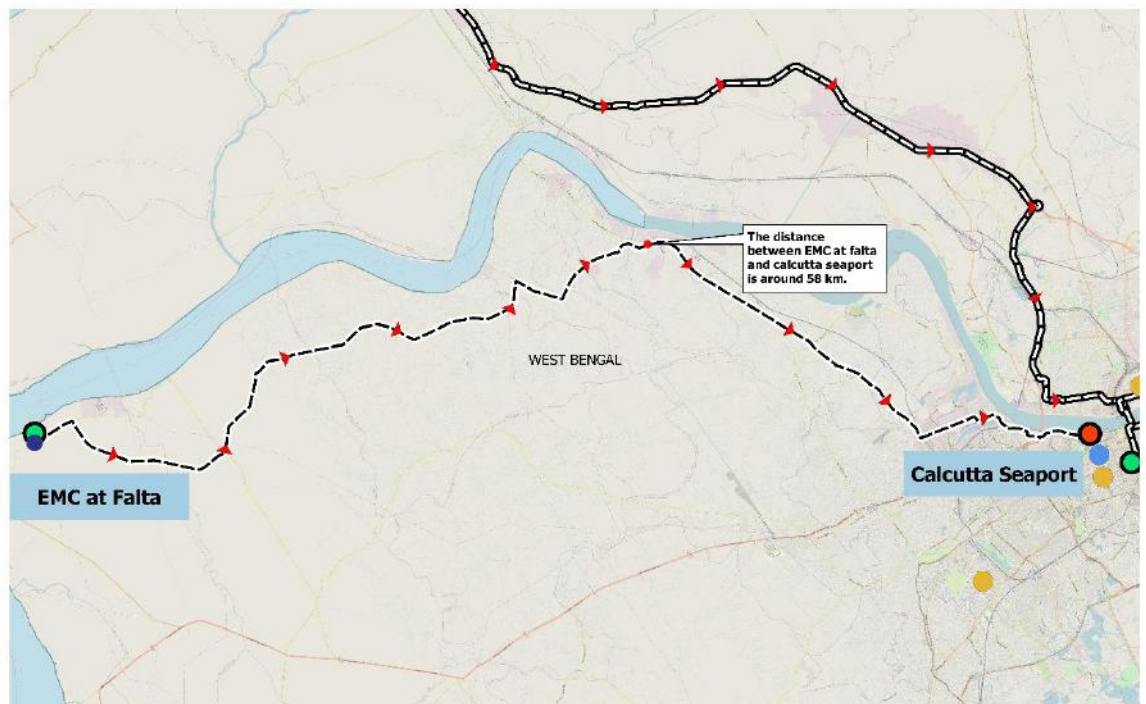
Calcutta Seaport

Falta EMC to Calcutta Airport:

The nearest international Airport to EMC at Falta is Calcutta Airport. The distance between the EMC at Falta and Calcutta airport is around 74 km.

EMC at Falta to Calcutta Airport
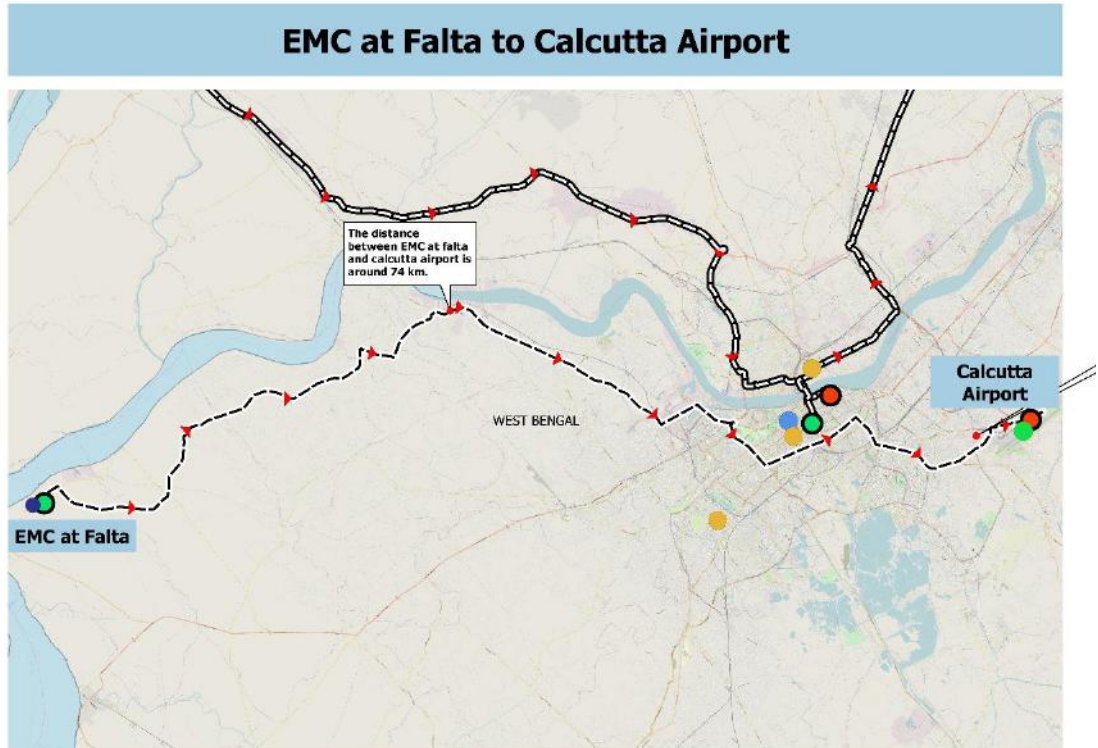
Falta EMC to Madras Seaport: The nearest major seaport to EMC at Falta is madras seaport. The distance between Falta EMC to Madras seaport is around 1555 km.
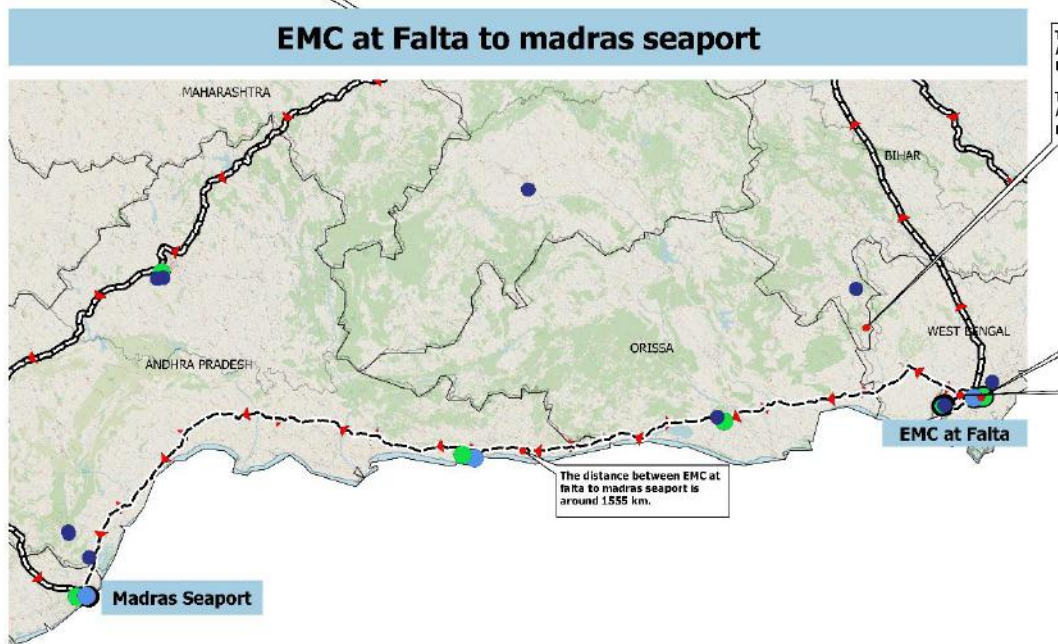
EMC at Falta to madras seaport

Falta EMC to JNPT Seaport: The second major seaport is JNPT seaport. The distance between Falta EMC to JNPT seaport (Nhava Sheva) is around 2146 km.

EMC at Falta to JNPT
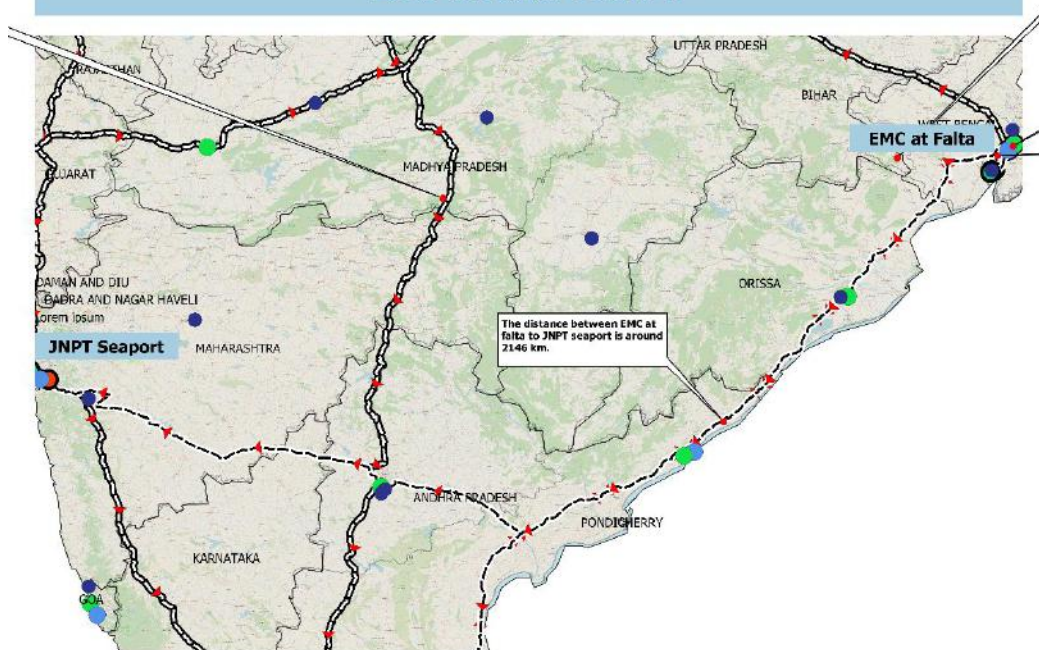
Falta EMC to Delhi Airport: The nearest major airport is Delhi airport. The distance between Falta EMC to Delhi airport is around 1589 km.

EMC at Falta to Delhi Airport
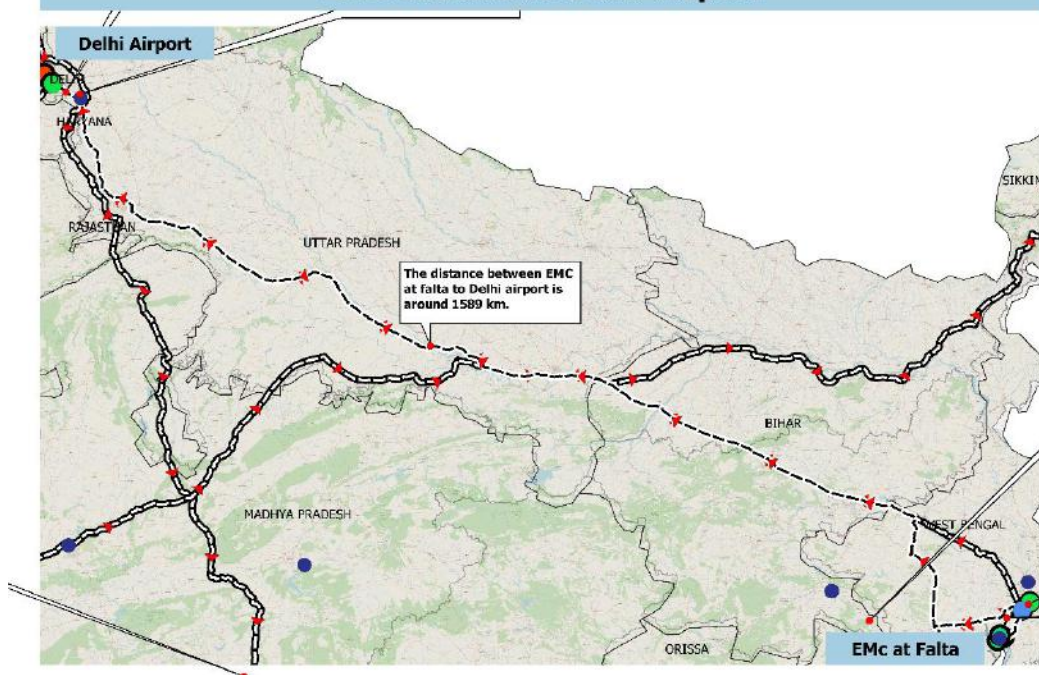
Falta EMC to Madras Airport: The second nearest major airport to EMC at Falta is madras airport. The distance between Falta EMC to Madras airport is around 1568 km.

EMC at Falta to Madras Airport

The distance between EMC at falta to Madras Airport is around 1568 km.
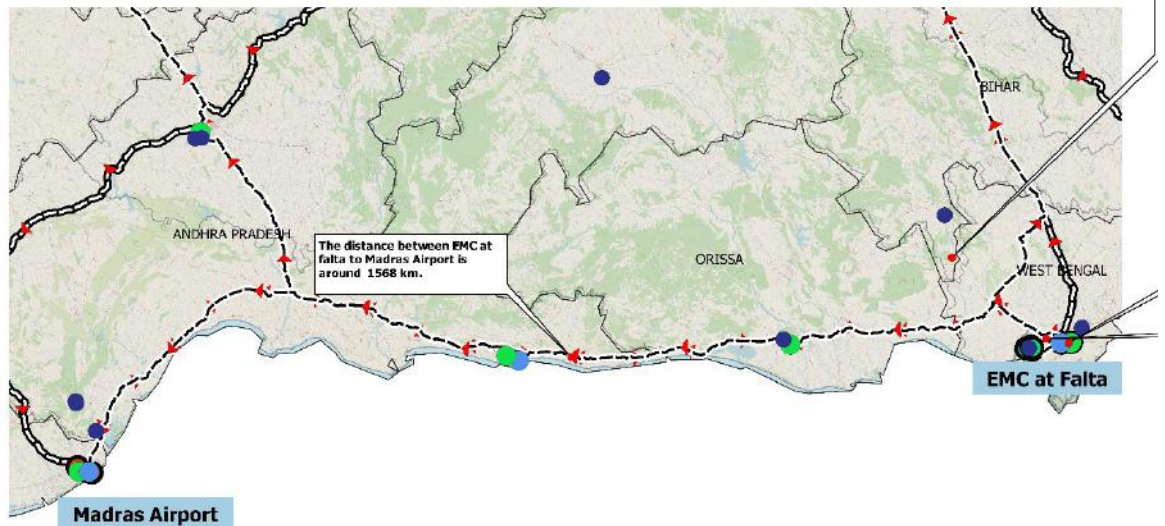
5) EMC at naihati

Metrices of logistics connectivity to Import-Export ports:

Nearest International Air Port: **Calcutta Airport**
Top two major sea ports: **Madras seaport, JNPT**
Top two nearest major Air ports: **Delhi Airport, Madras airport**
Nearest Arterial road: **Golden Quadrilateral (N-E Corridor)**

A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:

Naihati EMC to Nearest Arterial: The distance between the EMC at Naihati to the nearest arterial (N-E corridor) is around 42 km.

EMC at Naihati to Nearest Arterial
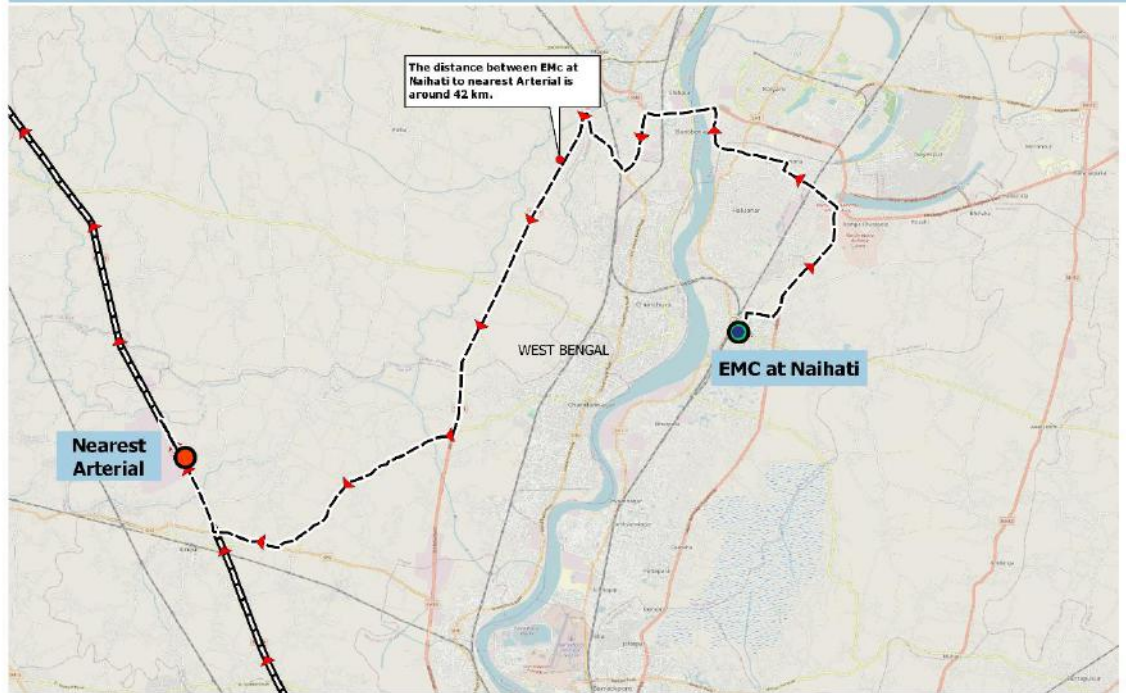
Naihati EMC to Calcutta Seaport: The nearest international Seaport to EMC at Naihati is Calcutta Seaport. The distance between the EMC at Naihati and Calcutta seaport is around 43 km.

EMC at Naihati to Calcutta seaport

Naihati EMC to Calcutta Airport:

The nearest international Airport to EMC at Naihati is Calcutta Airport. The distance between the EMC at Naihati and Calcutta airport is around 37 km.
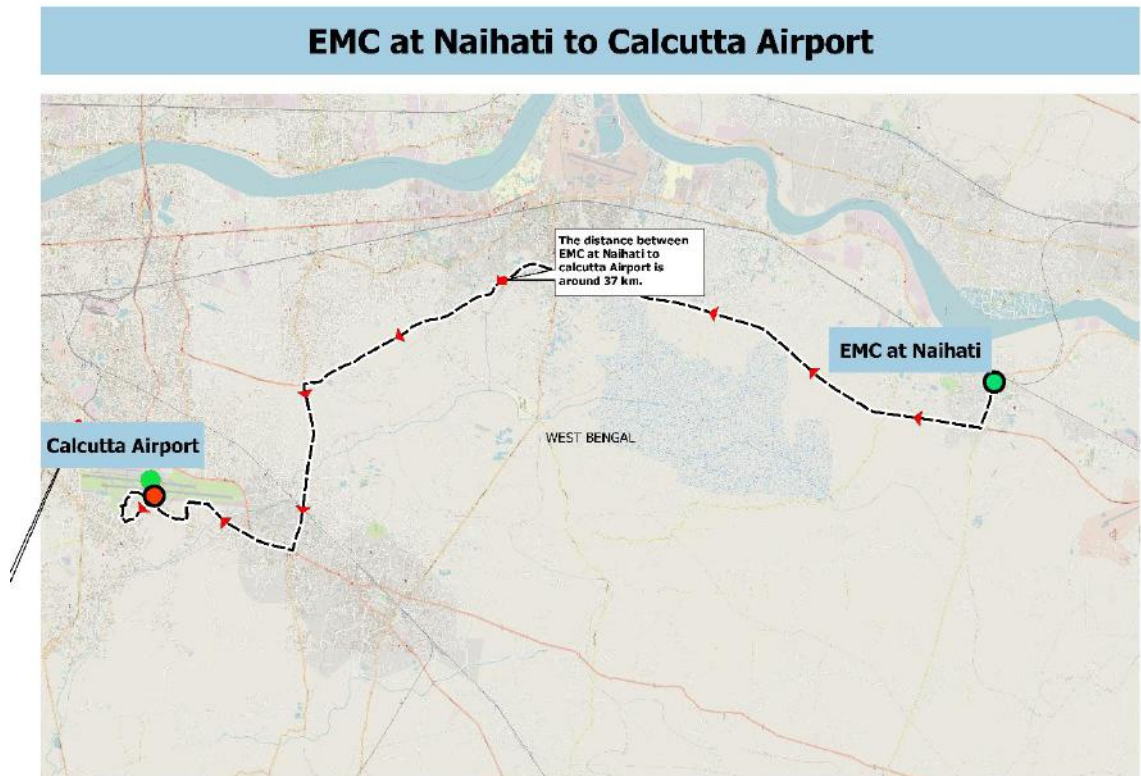
Naihati EMC to Madras Seaport: The nearest major seaport to EMC at Naihati is madras seaport. The distance between Naihati EMC to Madras seaport is around 1550 km.
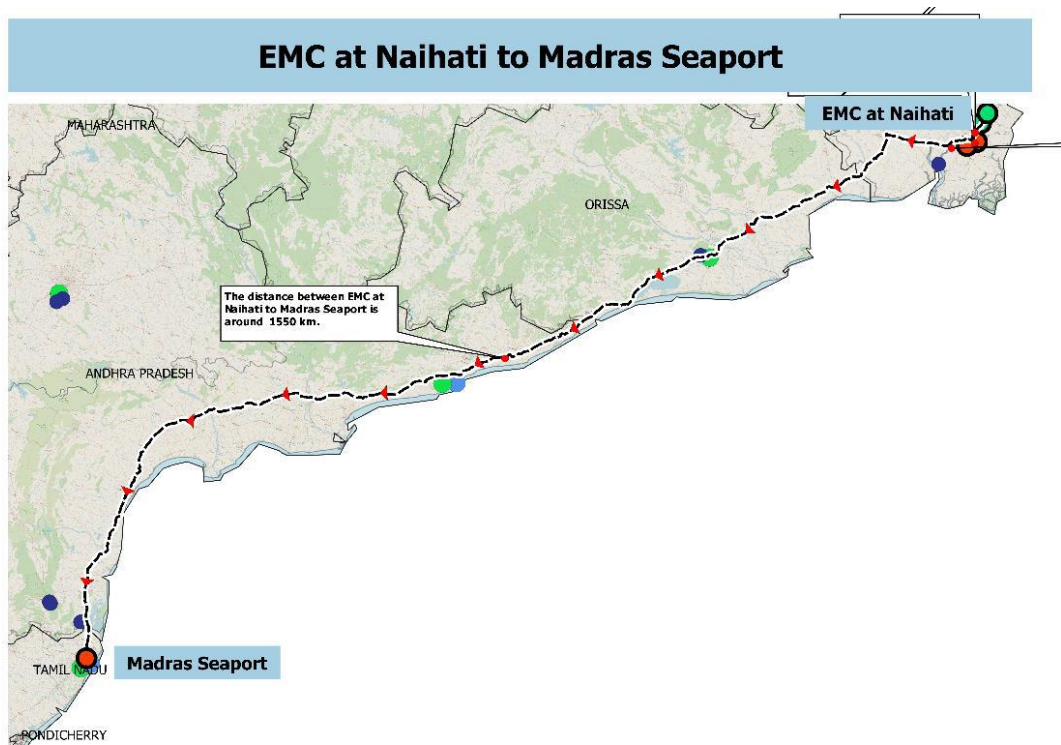
Naihati EMC to JNPT Seaport: The second major seaport is JNPT seaport. The distance between Naihati EMC to JNPT seaport (Nhava Sheva) is around 2091 km.
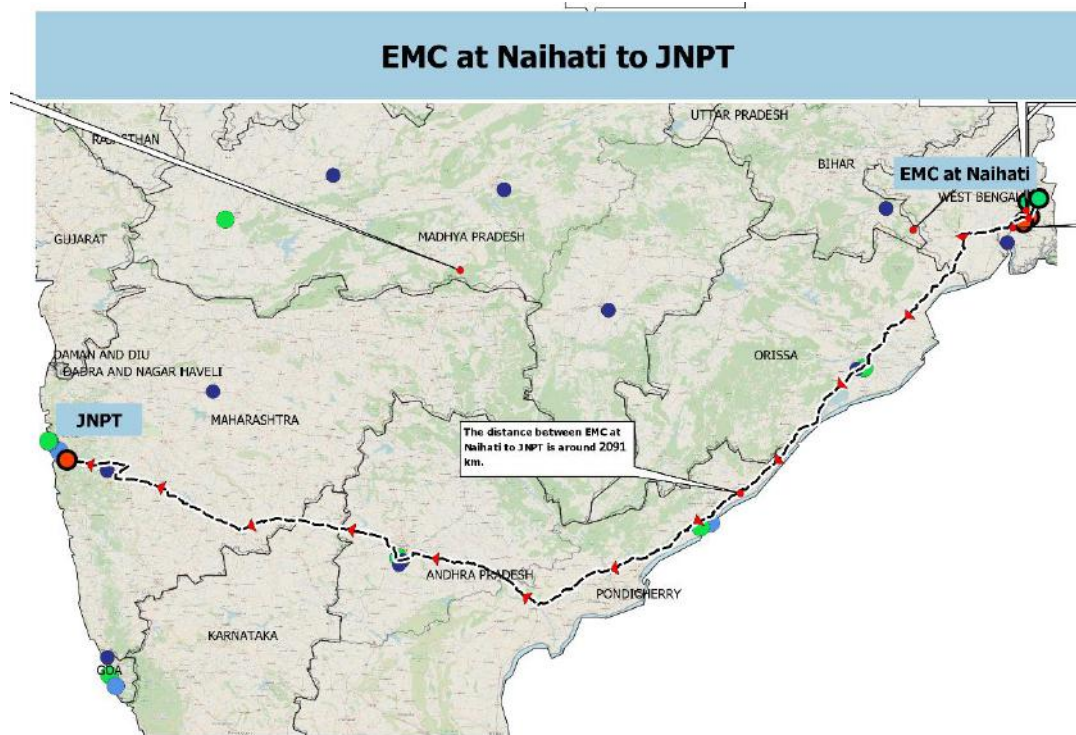
EMC at Naihati to JNPT

The distance between EMC at Naihati to JNPT is around 2091 km.

Naihati EMC to Delhi Airport: The nearest major airport is Delhi airport. The distance between Naihati EMC to Delhi airport is around 1400 km.

EMC at Naihati to Delhi Airport

The distance between EMC at Naihati to Delhi airport is around 1401 km.
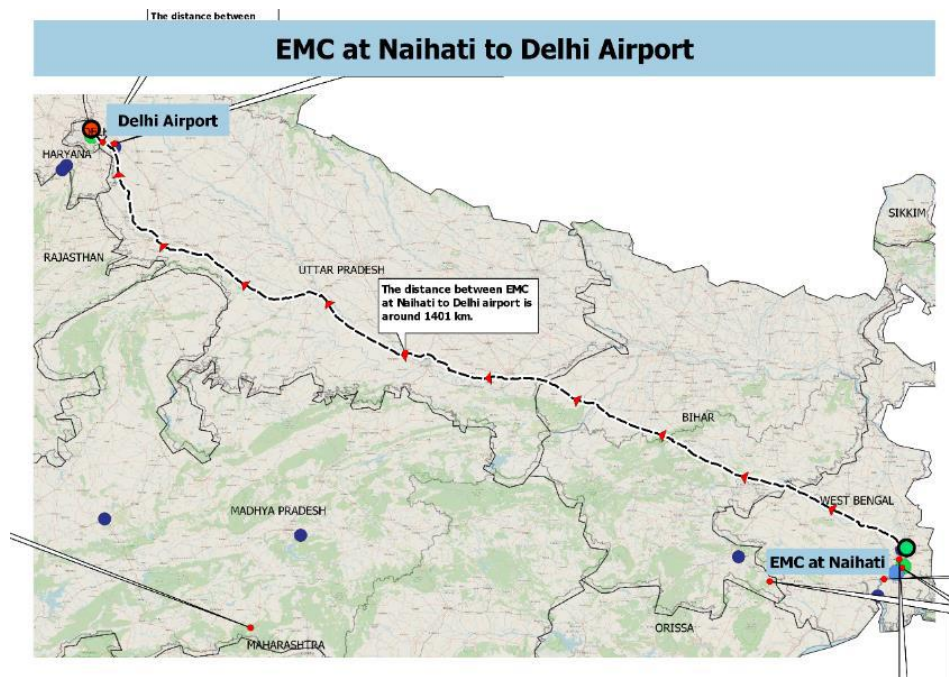
Naihati EMC to Madras Airport: The second nearest major airport to EMC at Naihati is madras airport. The distance between Naihati EMC to Madras airport is around 2121 km.

6) **EMC at Adityapur**

Metrices of logistics connectivity to Import-Export ports:

Nearest International Air Port: **Calcutta Airport**

Top two major sea ports: **Madras/chennai Seaport, JNPT**
Top two nearest major Air ports: **Delhi Airport, Madras/Chennai Airport**
Nearest Arterial road: **Golden Quadrilateral (E-S corridor)**

A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:

EMC at Adityapur to nearest Arterial (GQ(E-S corridor)): The distance between EMC at Adityapur to nearest Arterial is around 160 km.
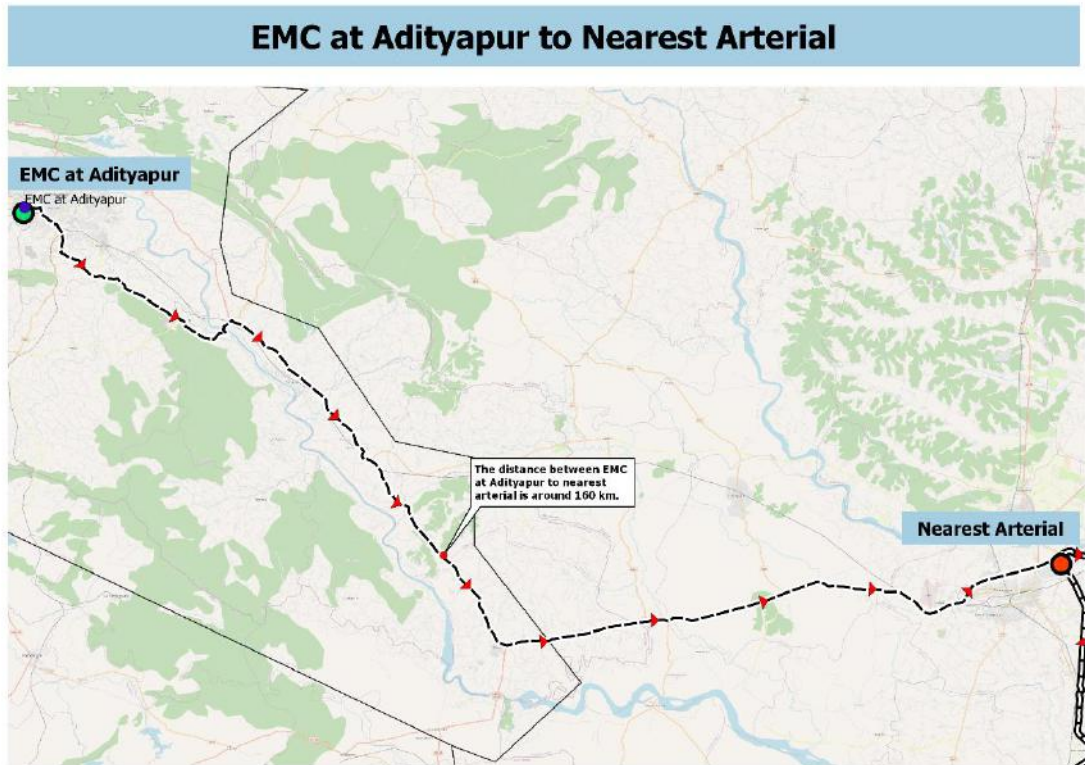
EMC at Adityapur to nearest International Seaport (Calcutta Seaport): The distance between EMC at Adityapur to calcutta seaport is around 270 km.
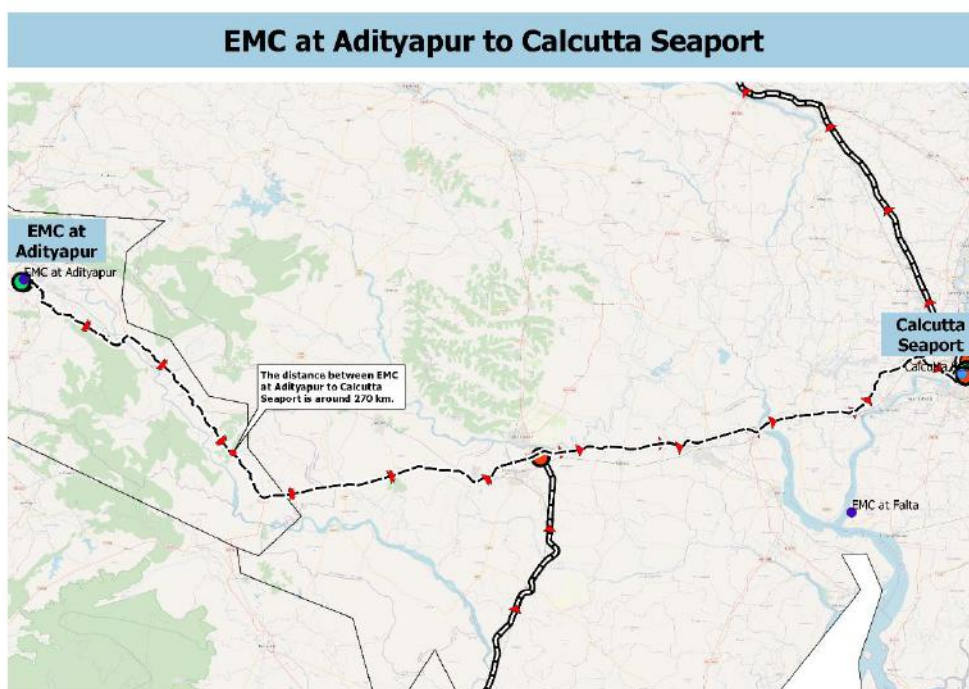
EMC at Adityapur to nearest International Airport (Calcutta Airport): The distance between EMC at Adityapur to calcutta airport is around 284 km.
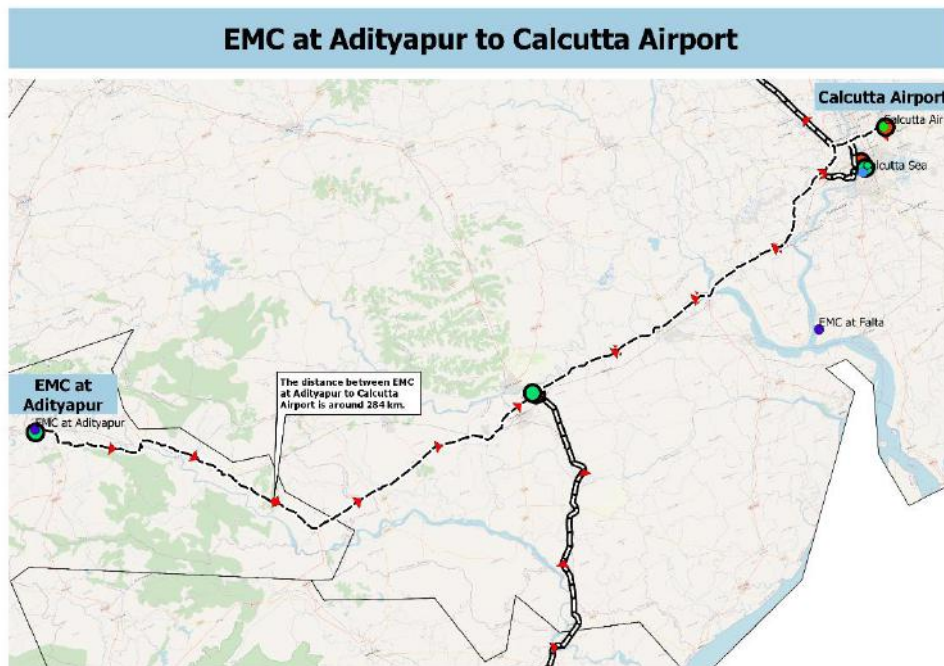
EMC at Adityapur to Calcutta Airport

EMC at Adityapur to Major Seaport 1 (Chennai/Madras Seaport): The distance between EMC at Adityapur to Chennai/Madras seaport is around 1430 km.

EMC at Adityapiur to Madras seaport
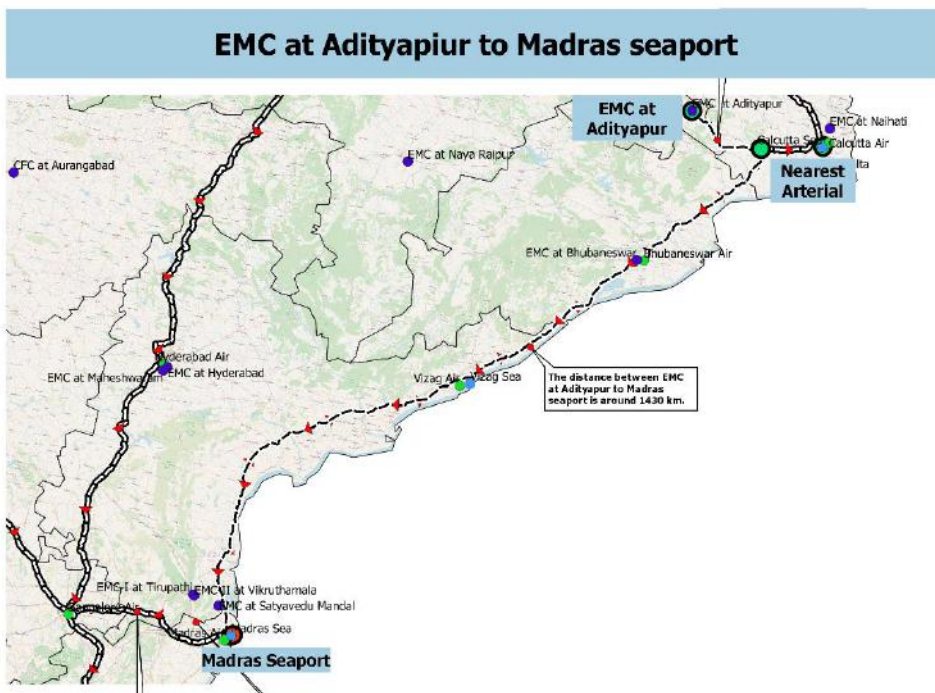
EMC at Adityapur to Major Seaport 2 (JNPT Seaport): The distance between EMC at Adityapur to JNPT seaport is around 1606 km.

EMC at Adityapur to JNPT
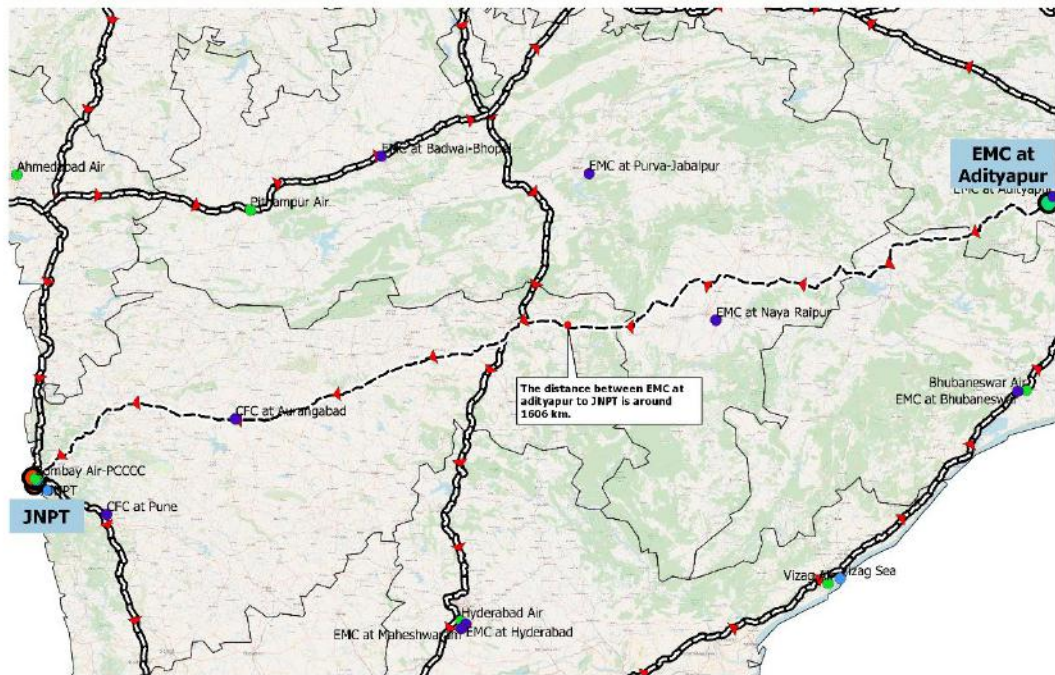
EMC at Adityapur to Major Airport 1 (Delhi Airport): The distance between EMC at Adityapur to Delhi airport is around 1286 km.

EMC at Adityapur to Delhi Airport
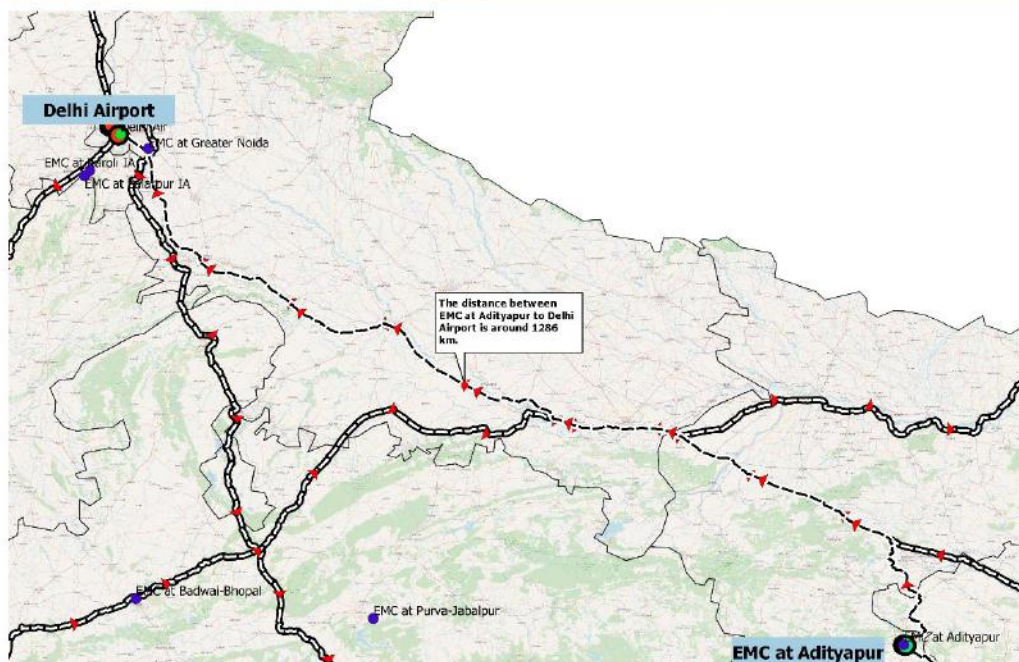
EMC at Adityapur to Major Airport 2 (Madras/Chennai Airport): The distance between EMC at Adityapur to Chennai/Madras airport is around 1450 km. (Nearby to Madras seaport)

7) EMC at purva-jabalpur

Metrices of logistics connectivity to Import-Export ports:

Nearest International Air Port: **Delhi Airport**
Top two nearest major sea ports: **JNPT, madras seaport**
Top two nearest major Air ports: **Delhi Airport, Bombay airport**
Nearest Arterial road: **N-S Corridor**

**A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:**

EMC at purva to Nearest Arterial (N-S Corridor):

The distance from EMC at Purva to nearest arterial (N-S corridor) via NH30 is around 88 km.

EMC at Purva to Nearest Arterial Road (N-S Corridor)

The distance from EMC at Purva to nearest arterial (N-S corridor) via NH45 is around 123 km.

EMC at purva to International Airport/Major Airport (Delhi Airport):

The distance from EMC at purva to delhi airport is around 850 km.
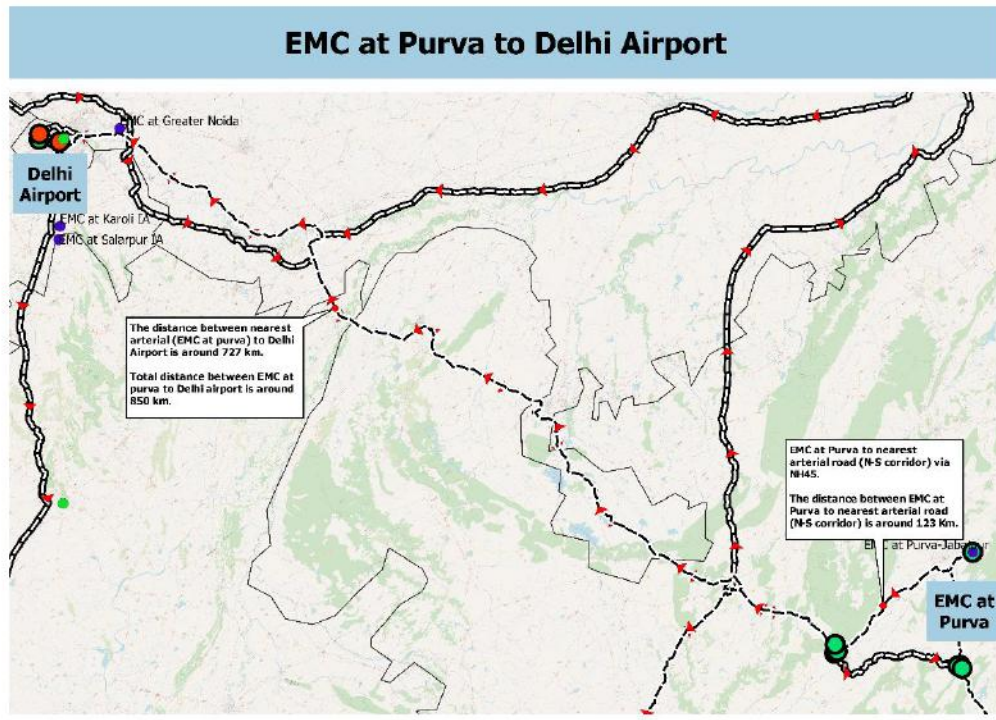
EMC at Purva to Delhi Airport

EMC at purva to International Seaport/Major Seaport (JNPT Seaport):

The distance from EMC at purva to JNPT seaport is around 1060 km (1079 km via NH45 nearest arterial link and 1055 km via NH30 nearest arterial link).

EMC at Purva to JNPT Seaport
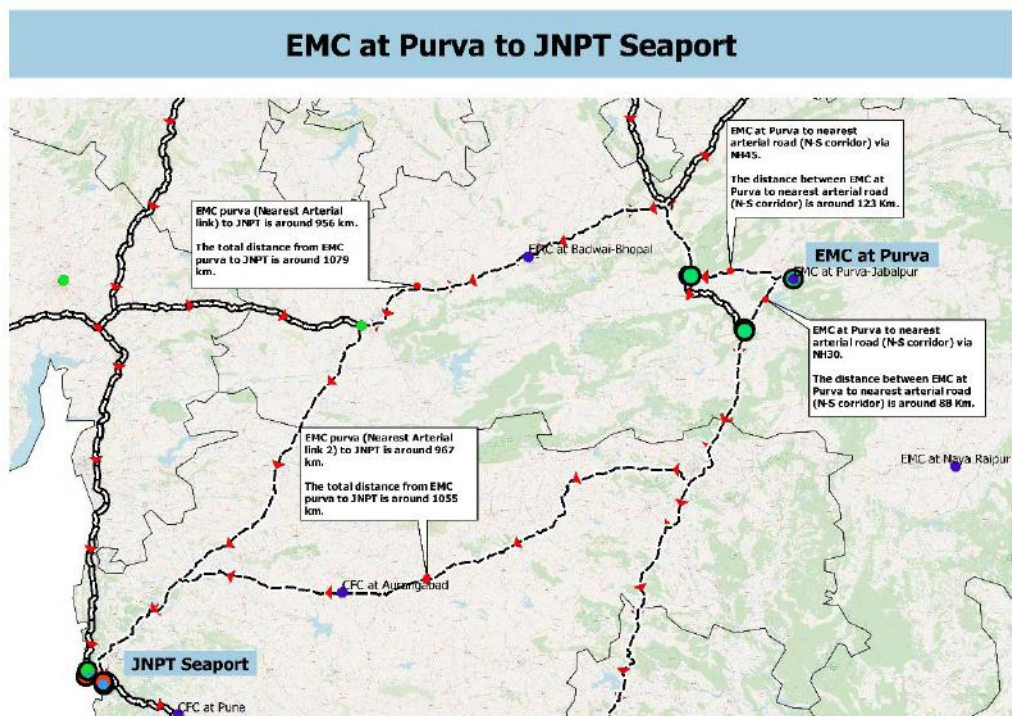
EMC at purva to Major Seaport 2 (Madras Seaport):

The distance from EMC at purva to Madras seaport is around 1410 km.

EMC at Purva to Chennai/Madras Seaport
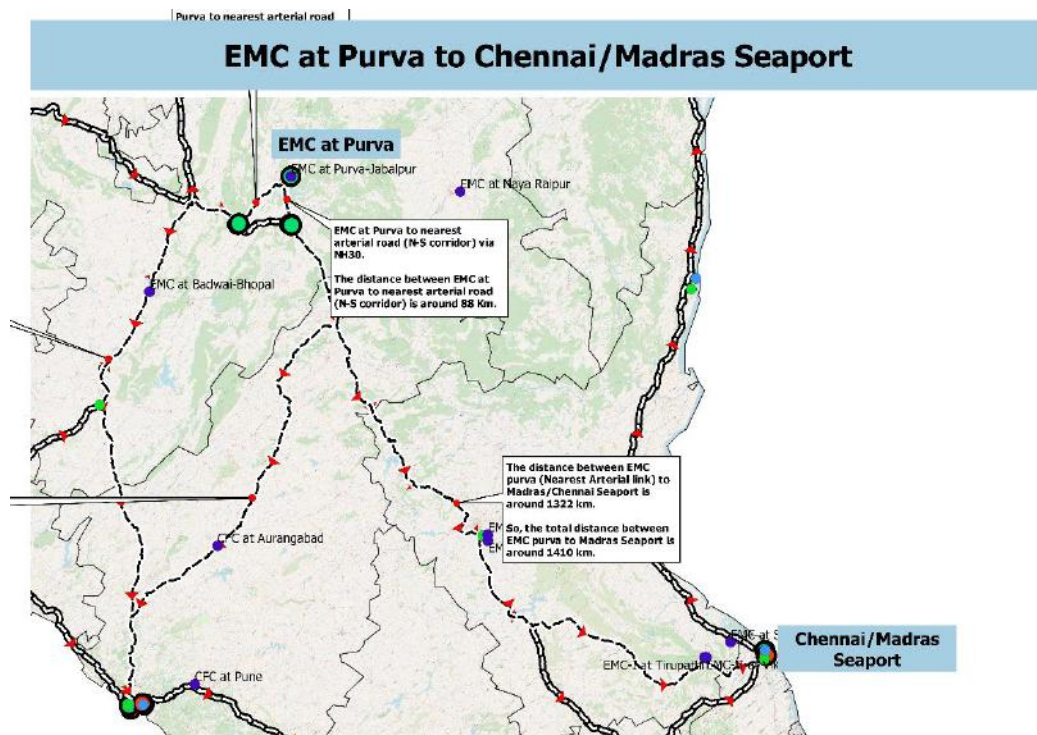
EMC at purva to Major Airport 2 (Bombay Airport):

The distance from EMC at purva to Bombay airport is around 1090 km (around 1109 km via NH45 nearest arterial link and around 1085 km via NH30 nearest arterial link). [considering Bombay airport is around 30 km away from JNPT)

8) EMC at Naya Raipur

Metrices of logistics connectivity to Import-Export ports:

Nearest International Air Port: **Bombay Airport**
Top two nearest major sea ports: **JNPT, Chennai (Madras) seaport**
Top two nearest major Air ports: **Delhi Airport, Mumbai/Chennai Airport**
Nearest Arterial road: **N-S corridor**

A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:

EMC at naya-raipur to Nearest Arterial (N-S Corridor):

The distance from EMC at naya-raipur to nearest arterial(N-S corridor) via NH53 is around 290 km.
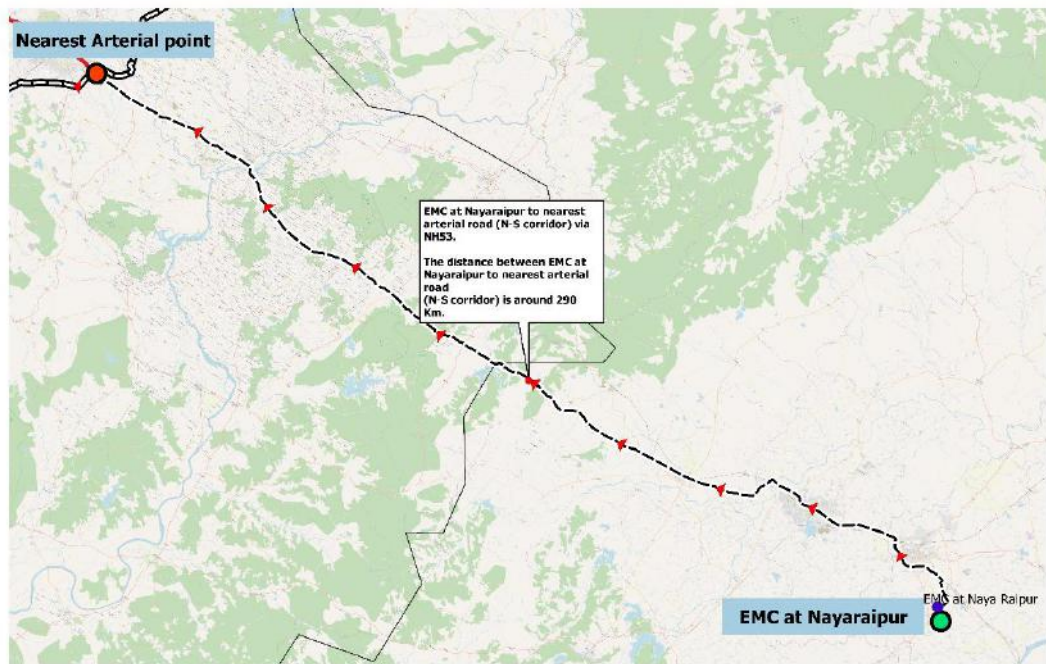
EMC at Naya- Raipur to International Airport/Major Airport (Bombay Airport):

The distance from EMC at naya-raipur to Bombay airport is around 1110 km. (around 30 km far from JNPT)

EMC at Naya- Raipur to Major Airport 2 (Delhi Airport):

The distance from EMC at naya-raipur to delhi airport is around 1246 km.
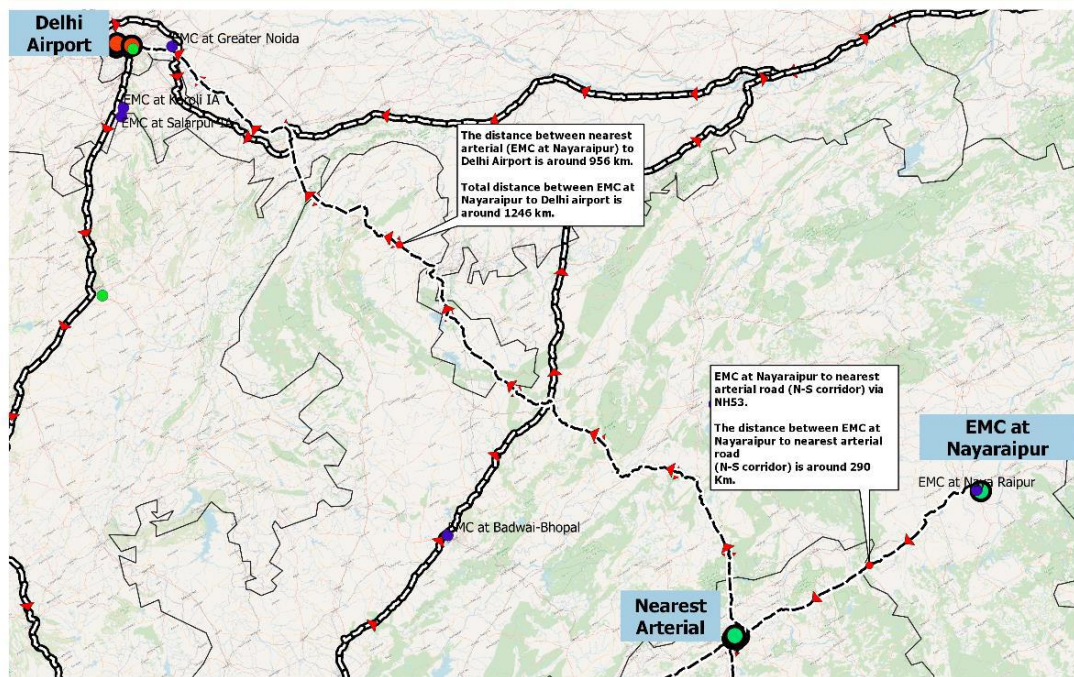
EMC at Naya Raipur to International Seaport/Major Seaport (JNPT Seaport):

The distance from EMC at Naya-Raipur to JNPT seaport is around 1080 km.
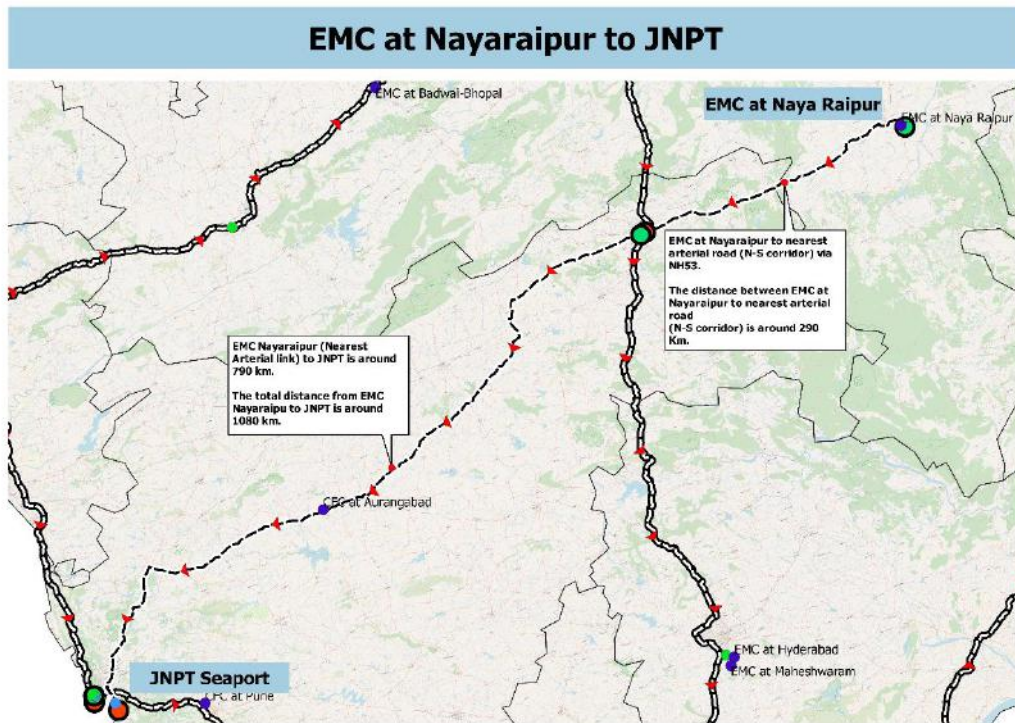
EMC at naya-raipur to Major Seaport 2 (Madras Seaport):

The distance from EMC at purva to Madras seaport is around 1435 km.
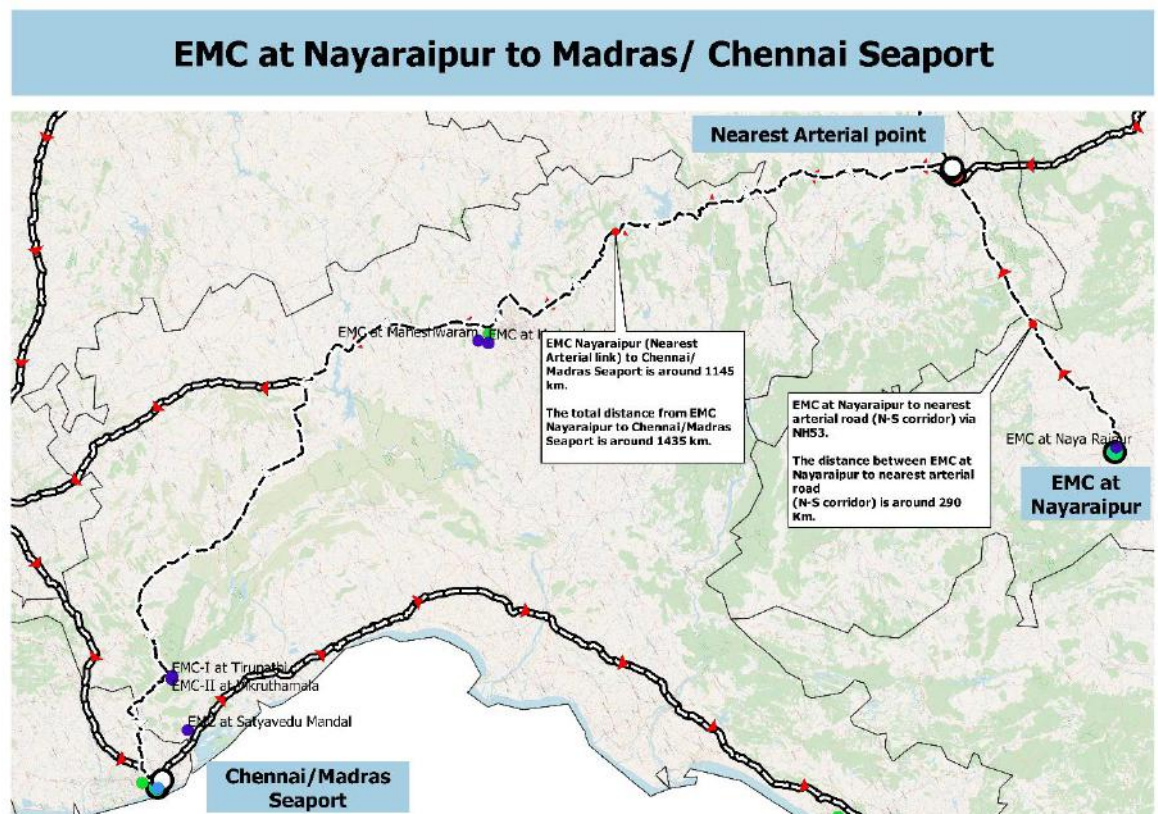
9) CFC Aurangabad

Metrices of logistics connectivity to Import-Export ports:

Nearest International Air Port: **Mumbai**
Top two major sea ports: **JNPT, Chennai port**
Top two nearest major Air ports: **Mumbai, Delhi airport**
Nearest Arterial road: **Golden Quadrilateral (N-W Corridor)**

A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:

CFC at Aurangabad to nearest arterial: The distance between the CFC at Aurangabad to the nearest arterial is around 290 km.
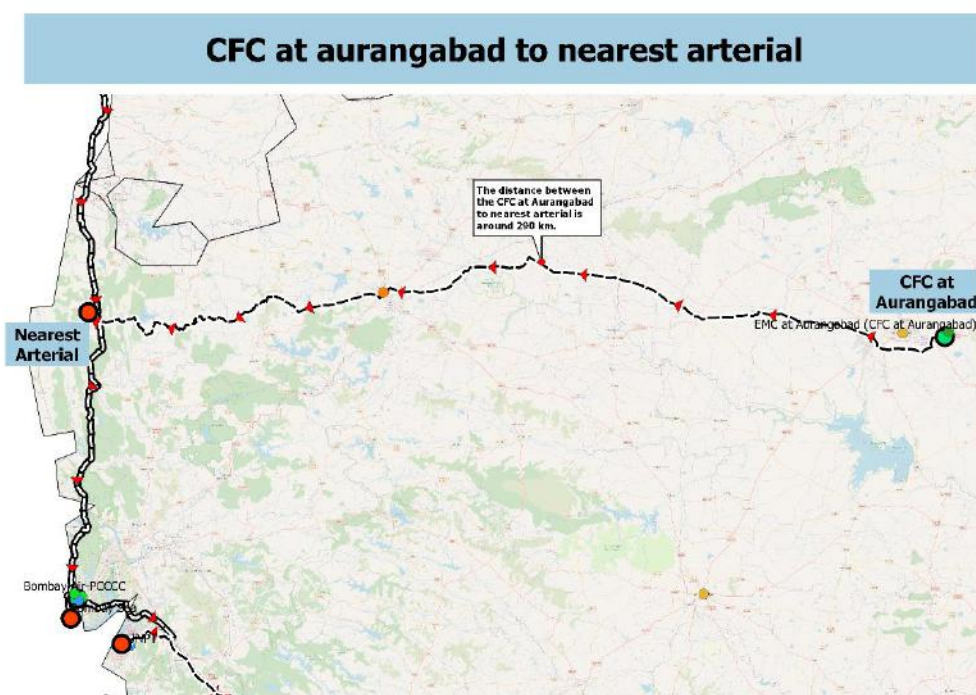
CFC at Aurangabad to nearest international seaport/ Major seaport 1 (JNPT): The distance between CFC at Aurangabad to JNPT seaport is around 355 km.

CFC at Aurangabad to JNPT
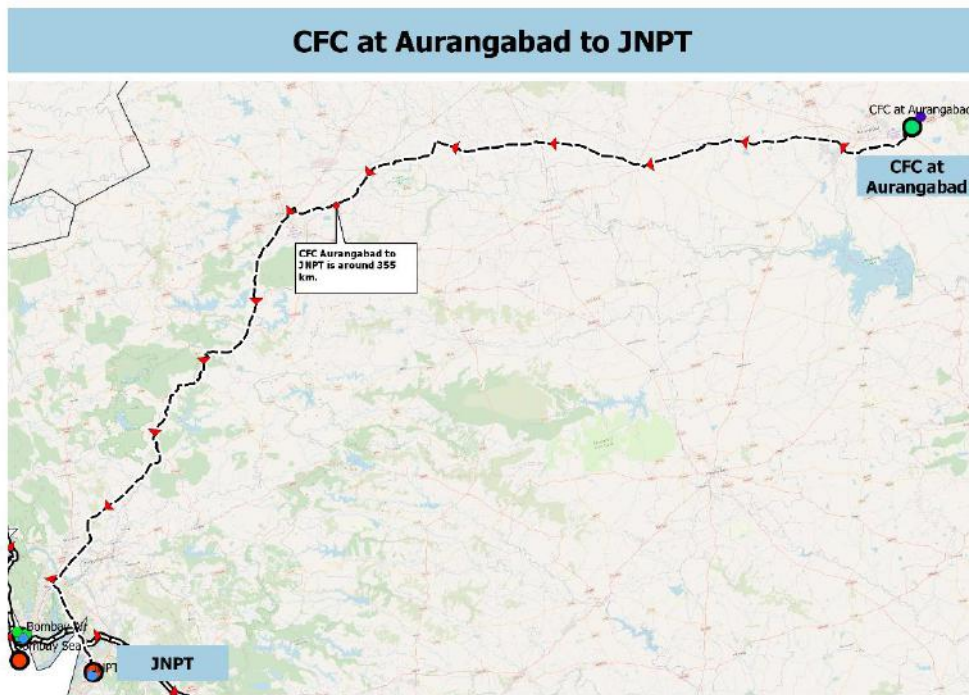
CFC at Aurangabad to Major seaport 2 (Chennai/Madras seaport): The distance between CFC at Aurangabad to Madras seaport is around 1200 km.

CFC at Aurangabad to Chennai/Madras Seaport
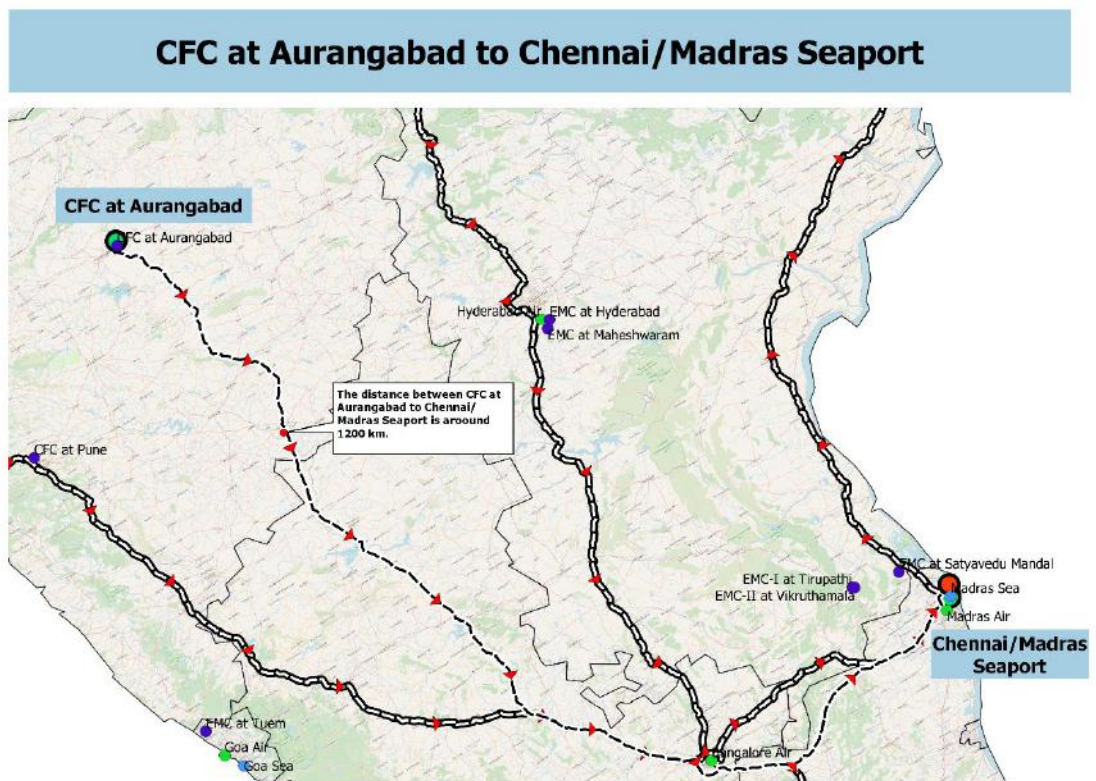
CFC at Aurangabad to nearest international Airport/ Major airport 1 (Bombay air): The distance between CFC at Aurangabad to Bombay airport is around 355 km. (nearby to JNPT)

CFC at Aurangabad to Major airport 2 (chennai/Madras air): The distance between CFC at Aurangabad to Chennai/madras airport is around 1200 km. (nearby to Madras seaport)

CFC at Aurangabad to Major Airport 2 (Delhi Airport): The distance between CFC at Aurangabad to Delhi airport is around 1209 km.
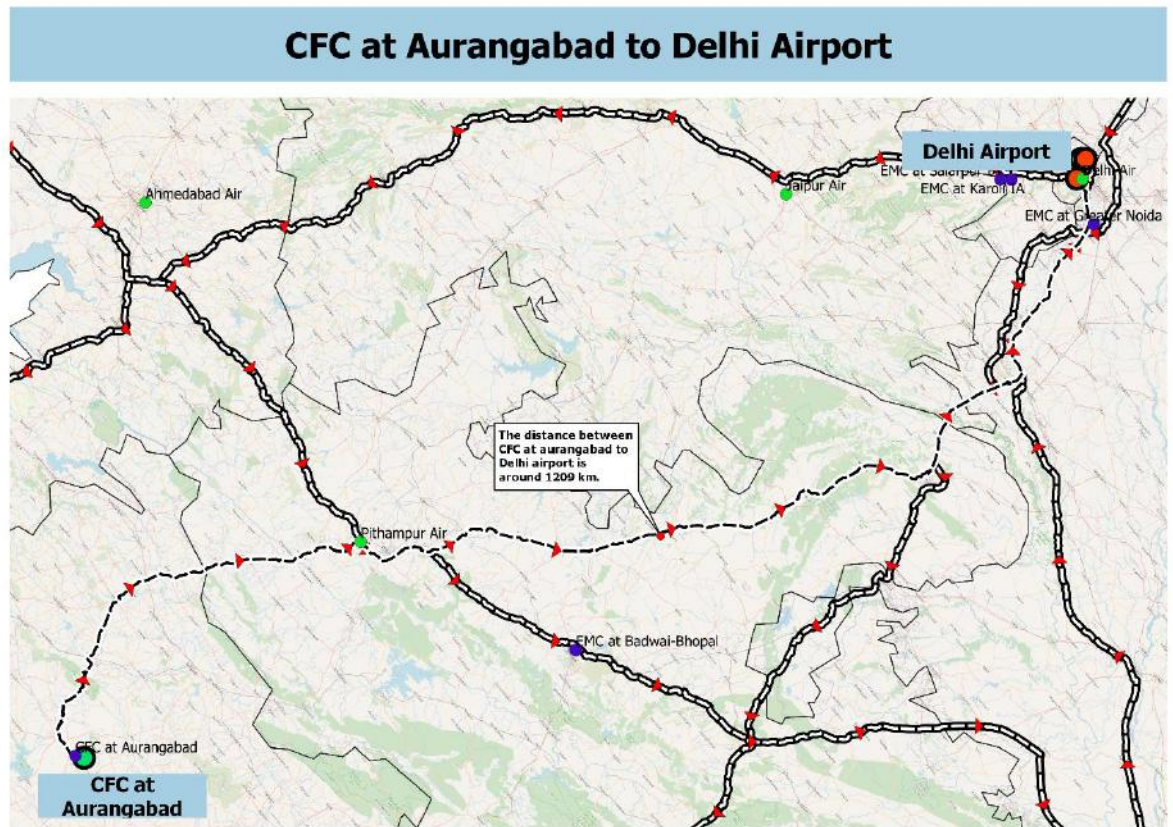
CFC at Aurangabad to Delhi Airport

10) CFC Pune

Metrices of logistics connectivity to Import-Export ports:

Nearest International Air Port: **Mumbai**
Top two major sea ports: **JNPT, Madras seaport**
Top two nearest major Air ports: **Mumbai, Delhi Airport**
Nearest Arterial road: **Golden Quadrilateral (W-S corridor)**

**A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:**

CFC at pune to Nearest Arterial Link (W-S corridor): The distance between CFC at pune to nearest arterial (W-S corridor) is around 9 km.

CFC at Pune to Nearest Arterial road
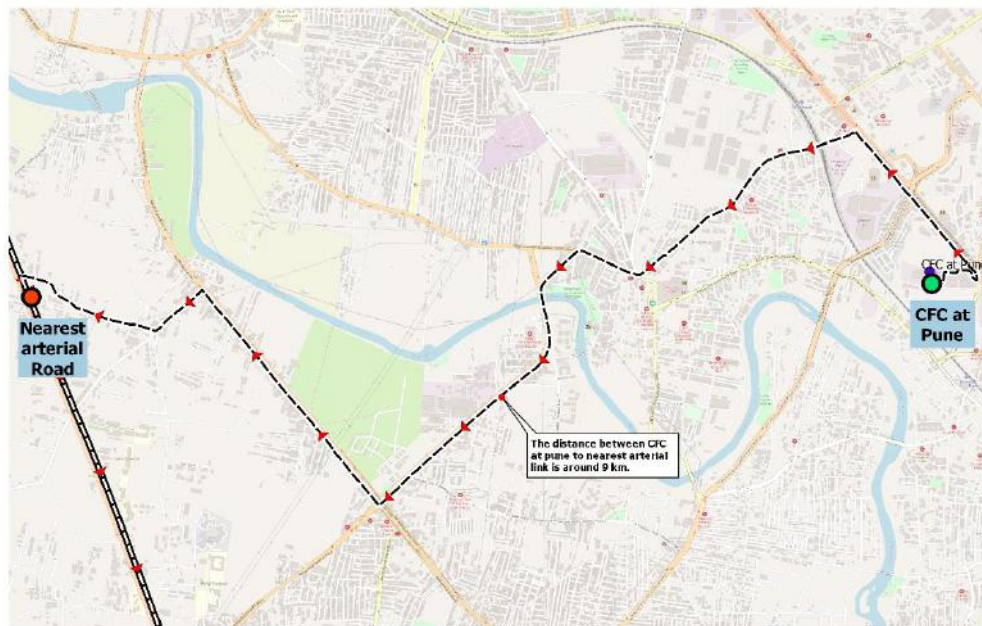
CFC at pune to Nearest international Airport/Major Airport 1 (Bombay Airport): The distance between CFC at pune to Bombay Airport is around 111 km. (nearby JNPT seaport)

CFC at pune to Major Airport 2 (Delhi Airport): The distance between CFC at pune to Delhi Airport is around 1340 km.

CFC at pune to Delhi Airport
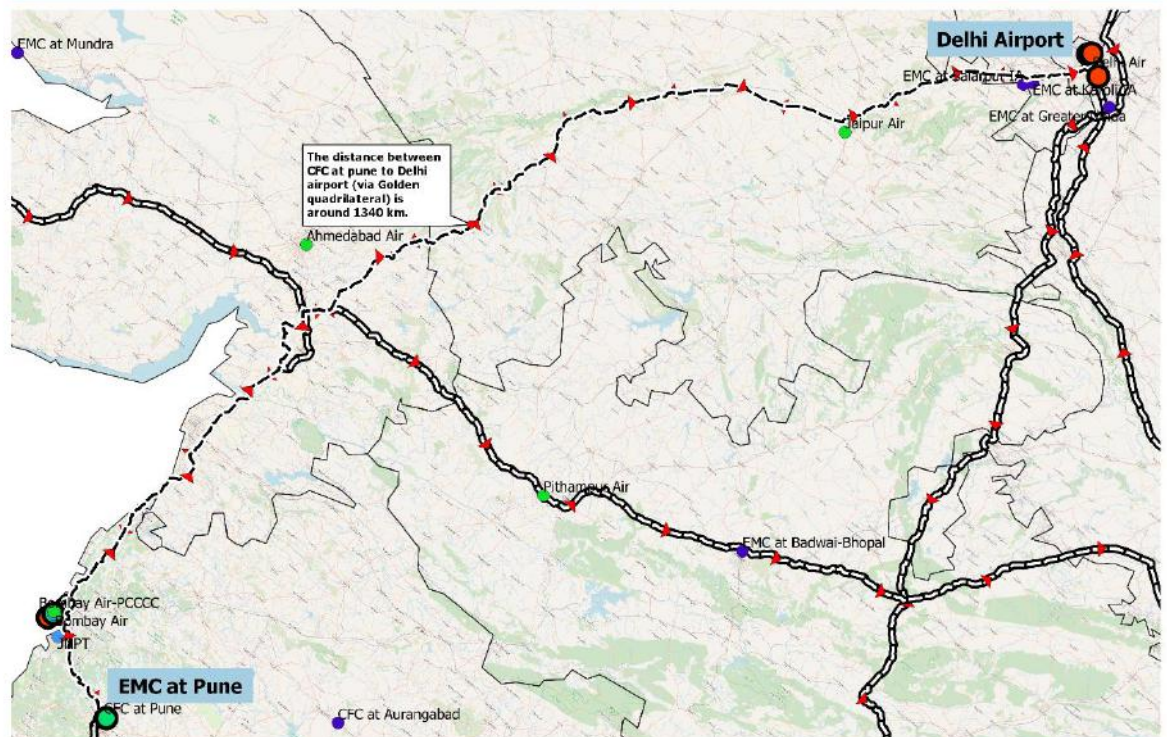
CFC at pune to Nearest international Seaport/ Major Seaport (JNPT): The distance between CFC at pune to JNPT is around 111 km.
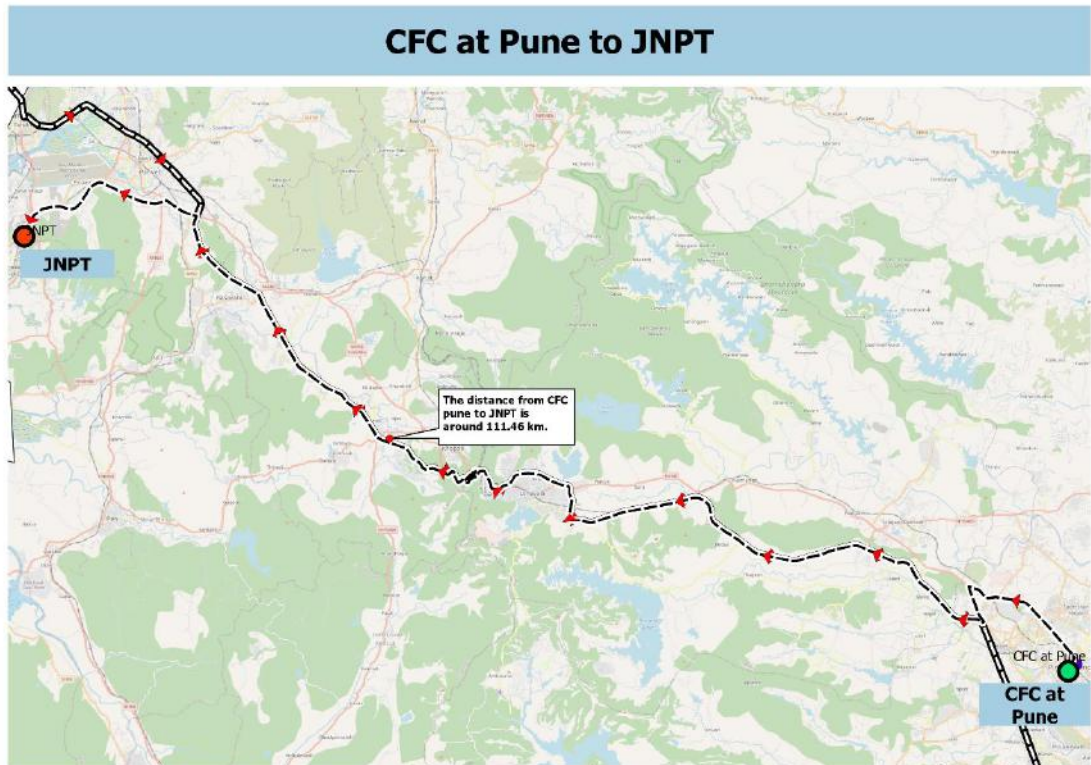
**CFC at pune to Major Seaport 2 (Chennai/Madras Seaport):** The distance between CFC at pune to Chennai/Madras seaport is around 1160 km.
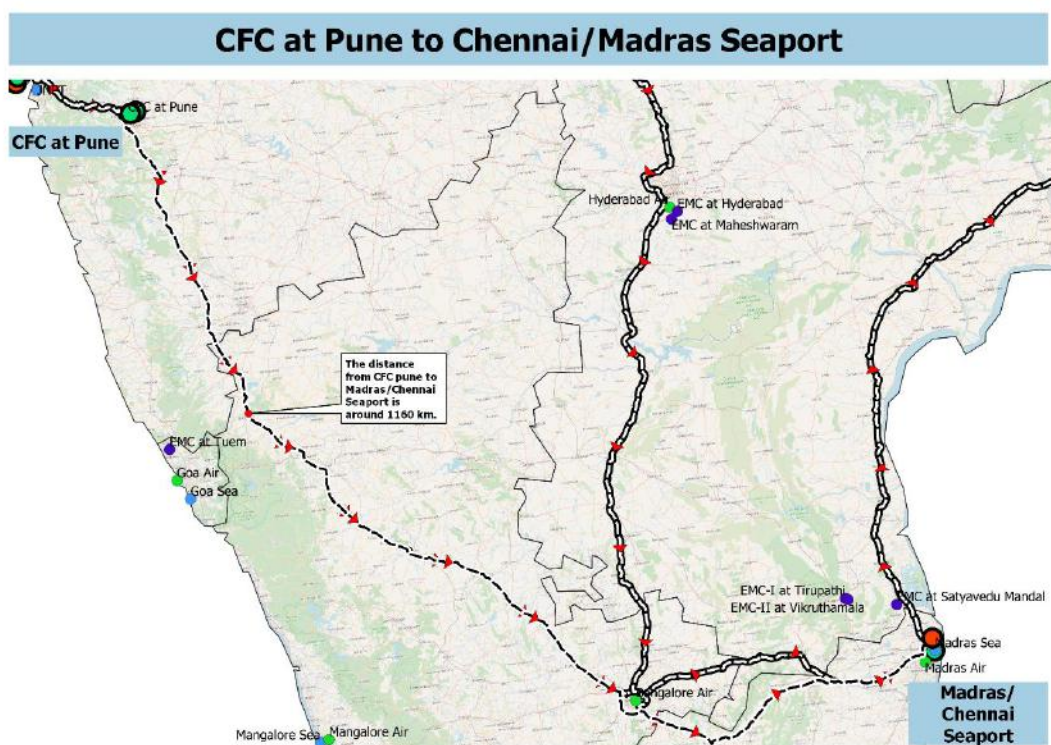
11) EMC at Hyderabad

Metrices of logistics connectivity to Import-Export ports:

Nearest International Air Port: **Hyderabad Airport**
Top two major sea ports: **JNPT, Madras (chennai) Seaport**
Top two nearest major Air ports: **Bombay Airport, Madras Airport, Bangalore Airport**
Nearest Arterial road: **N-S corridor**

A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:

EMC at Hyderabad to Nearest Arterial (N-S Corridor):

The distance from EMC at hyderabad to nearest arterial (N-S corridor)
via outer ring road is around 17 km.
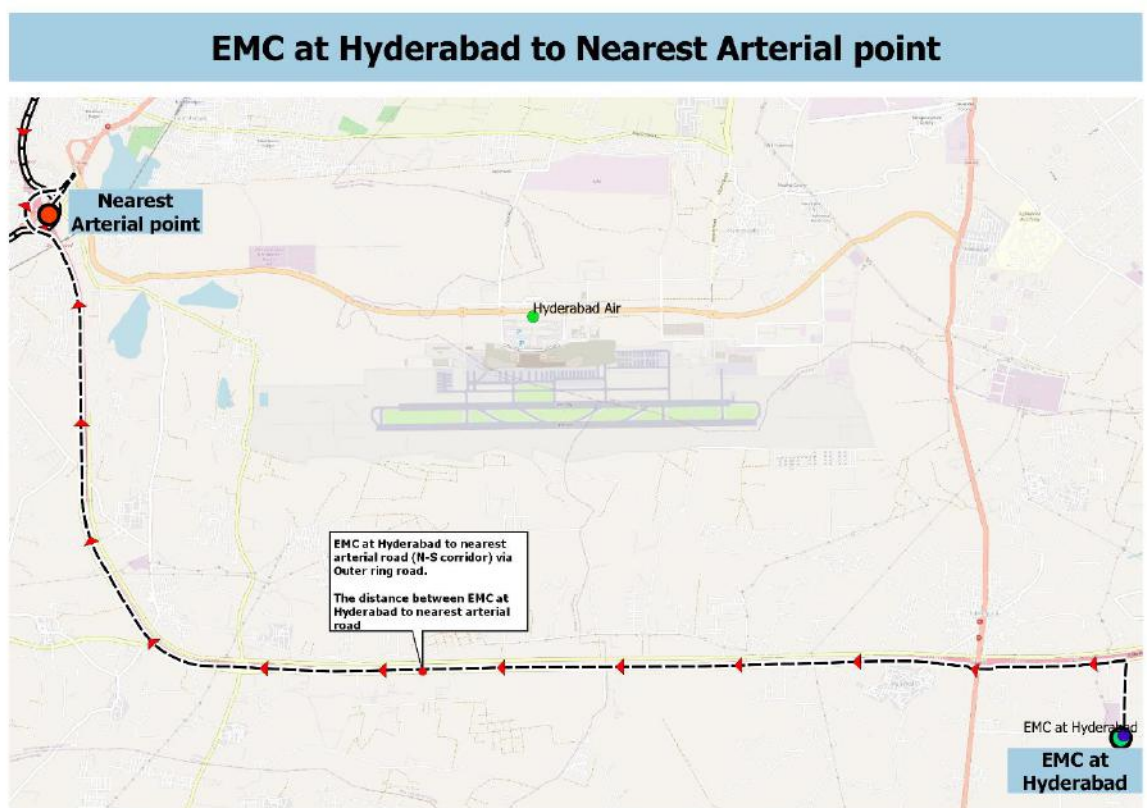
EMC at Hyderabad to Nearest international Airport (Hyderabad Airport): The distance from EMC at Hyderabad-to-Hyderabad airport is around 15 km.
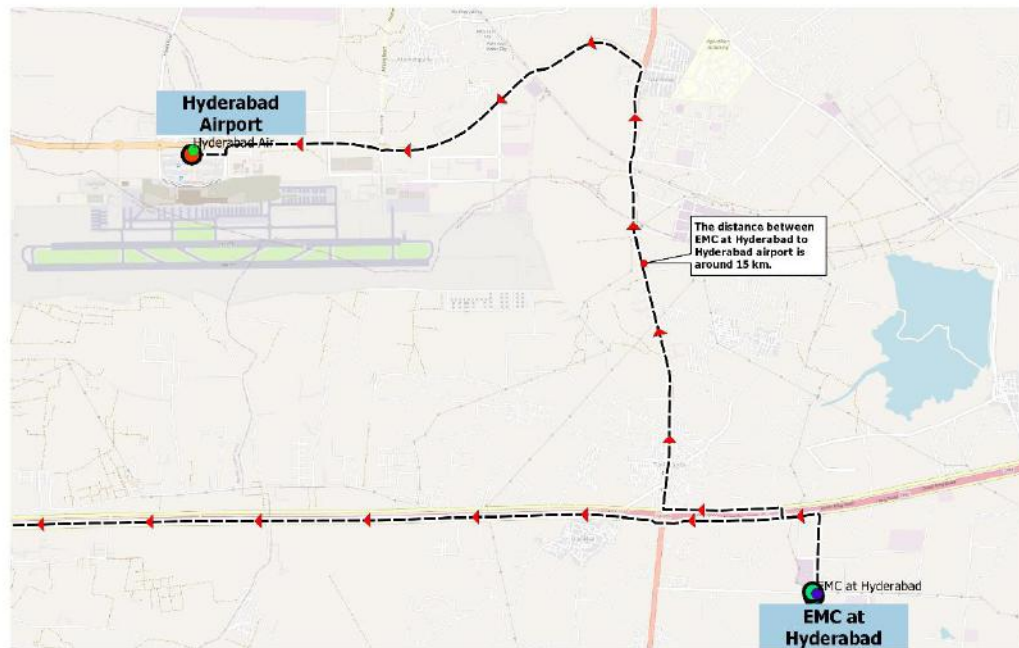
EMC at hyderabad to International Seaport (vizag Seaport): The distance from EMC at hyderabad to vizag seaport is around 626 km.
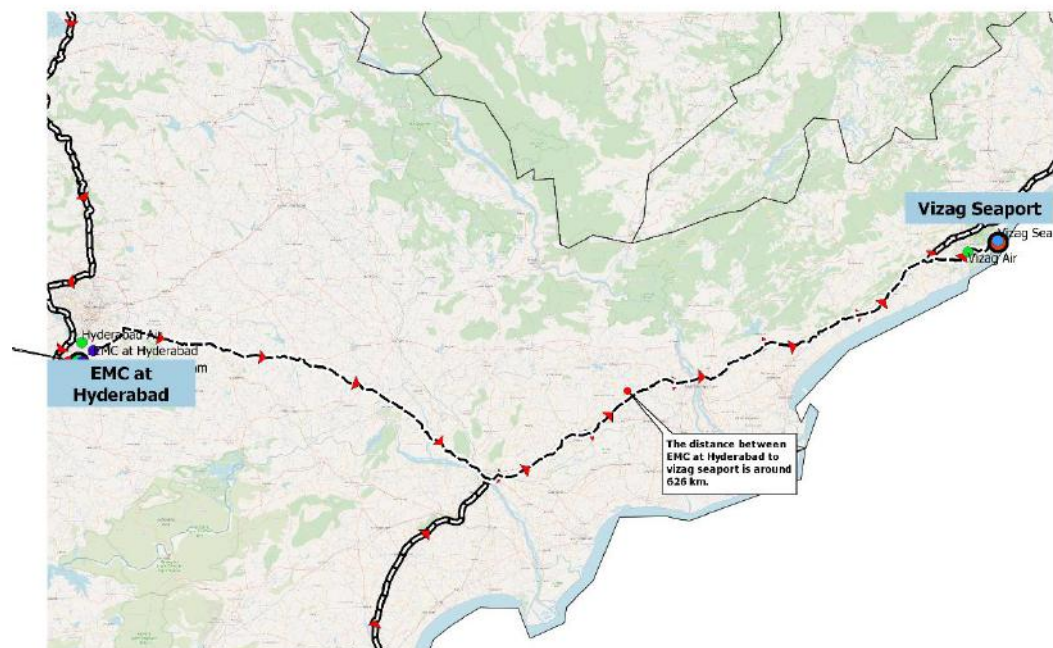
EMC at Hyderabad to Major Seaport 1 (JNPT): EMC at hyderabad to Major Seaport (JNPT Seaport):

The distance from EMC at hyderabad to JNPT seaport is around 712 km.
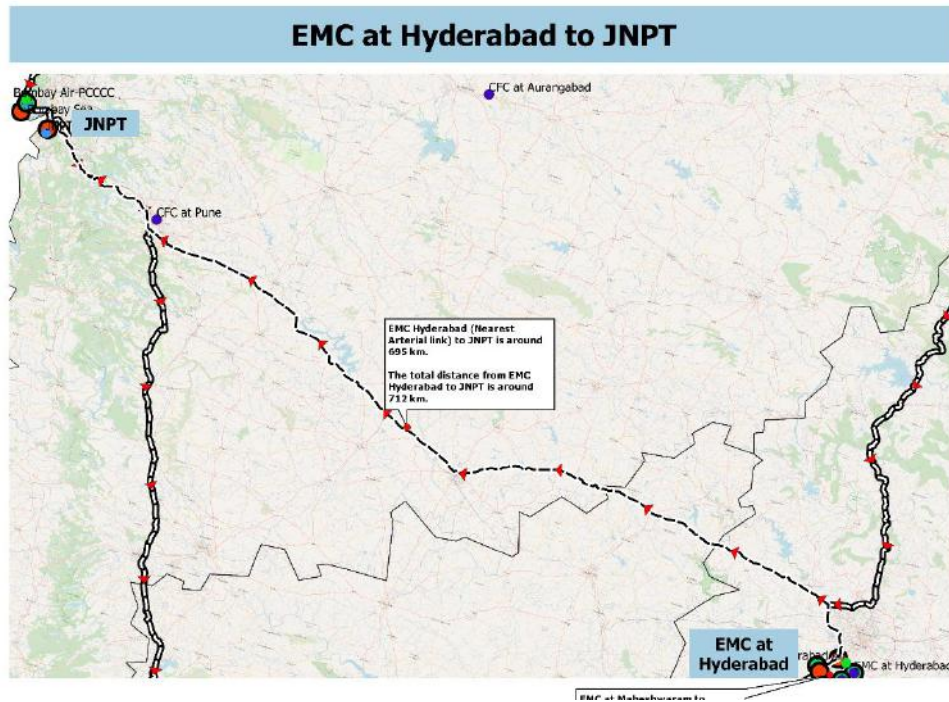
EMC at Hyderabad to Major seaport 1 (Madras Seaport): The distance between EMC at Hyderabad to madras seaport is around 637 km. (nearby to emc at maheshwaram)

EMC at hyderabad to Bangalore airport:
The distance between EMC at hyderabad to bangalore airport is around 547 km.
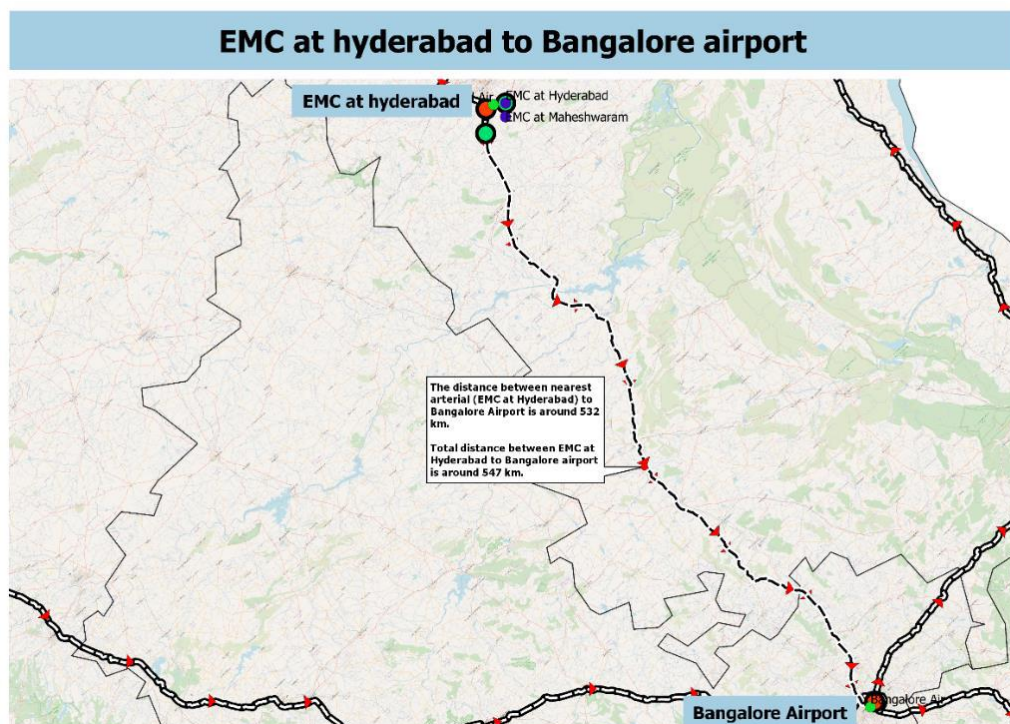
EMC at Hyderabad to Major airport 2 (Madras airport): The distance between EMC at Hyderabad to madras airport is around 637 km. (nearby to madras seaport [around 20-30 km])

12) EMC at Maheshwaram

Metrices of logistics connectivity to Import-Export ports:

Nearest International Air Port: **Hyderabad Airport**
Top two major sea ports: **JNPT, Madras (chennai) Seaport**
Top two nearest major Air ports: **Bombay Airport, Madras Airport, Bangalore Airport**
Nearest Arterial road: **N-S corridor**

### A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:

EMC at Maheshwaram to Nearest Arterial (N-S Corridor): The distance from EMC at maheshwaram to nearest arterial (N-S corridor) is around 15 km.
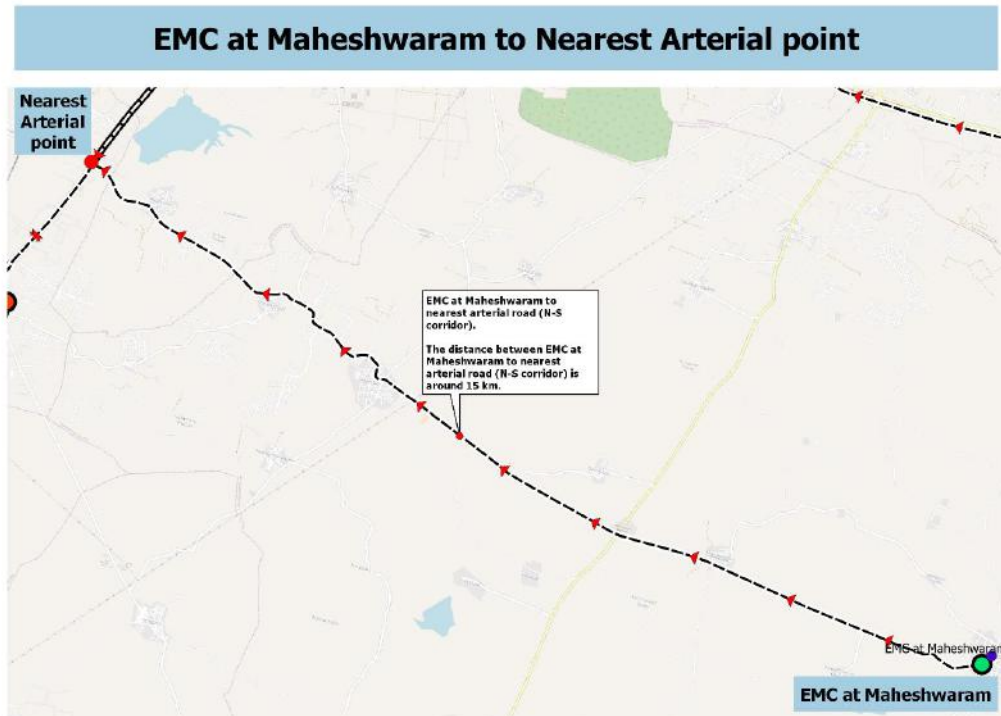
EMC at Maheshwaram to Nearest international Airport (Hyderabad Airport): The distance from EMC at maheshwaram to Hyderabad airport is around 20 km.

EMC at Maheshwaram to Hyderabad Airport

EMC at Maheshwaram to International Seaport (vizag Seaport): The distance from EMC at maheshwaram to vizag seaport is around 636 km.

EMC at Maheshwaram to Vizag Seaport
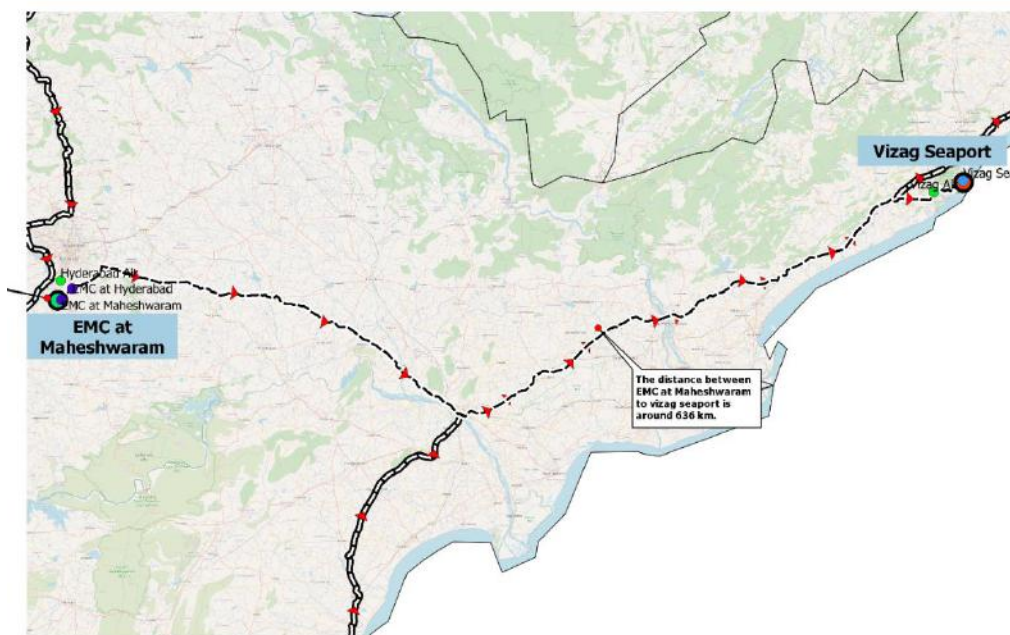
EMC at maheshwaram to Major Seaport 2 (JNPT): EMC at maheshwaram to Major Seaport (JNPT Seaport):

The distance from EMC at maheshwaram to JNPT seaport is around 712 km. (nearby to EMC at hyderabad)

EMC at Hyderabad to Major seaport 1 (Madras Seaport): The distance between EMC at Maheshwaram to madras seaport is around 637 km.

EMC at Maheshwaram to Madras Seaport
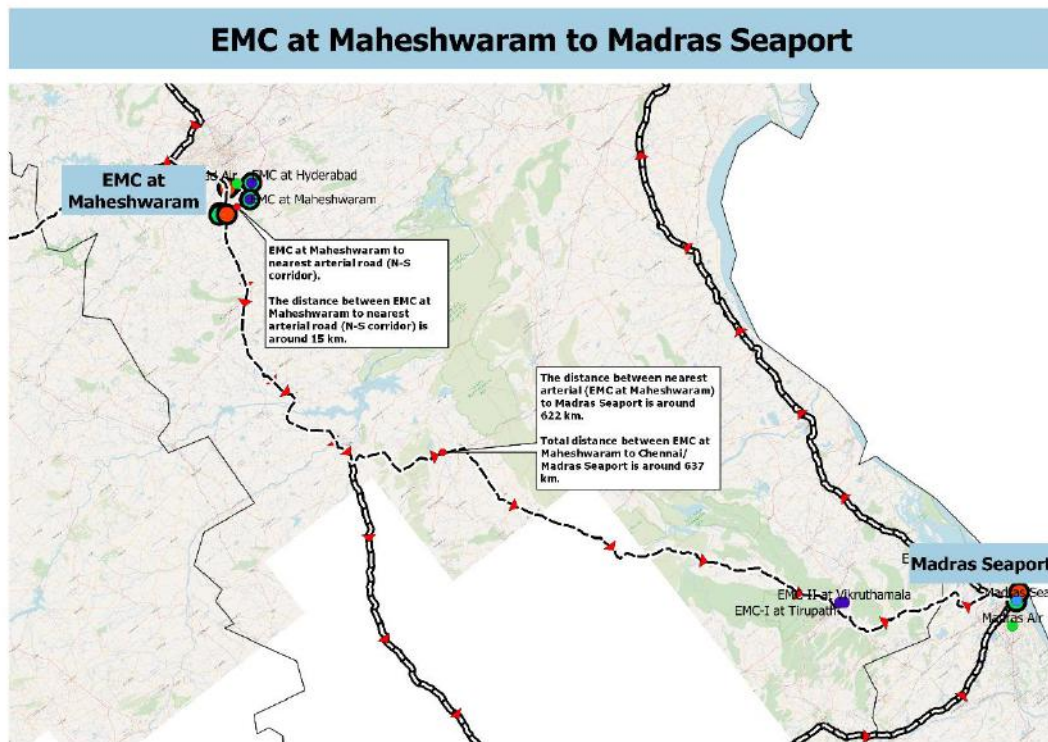
EMC at Maheshwaram to Bangalore airport: The distance between EMC at maheshwaram to bangalore airport is around 535 km.

EMC at Maheshwaram to Bangalore
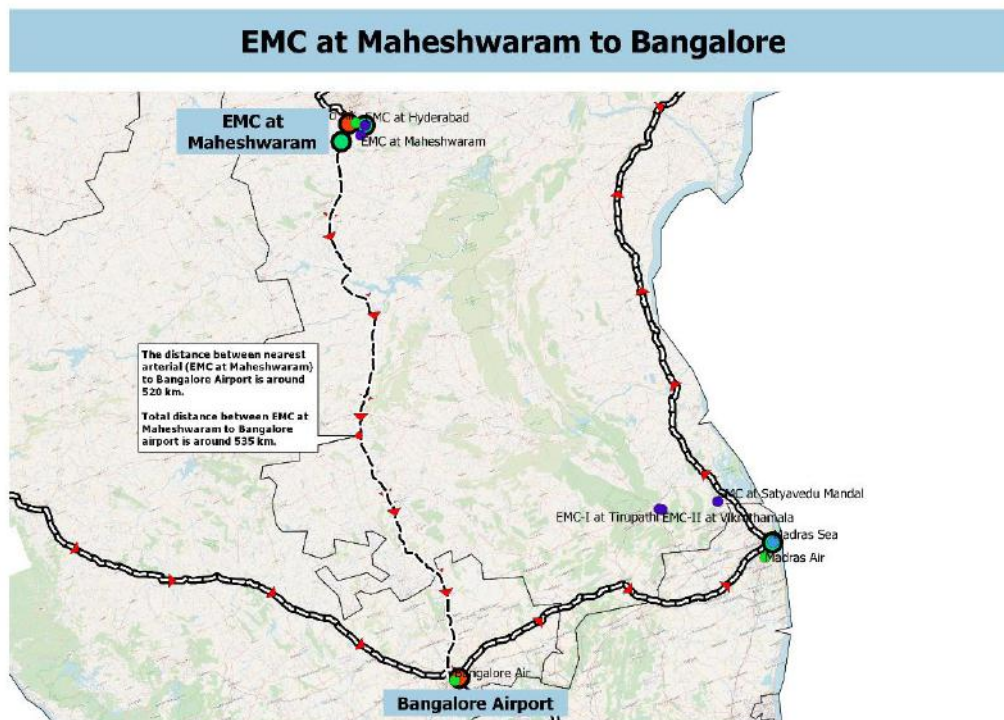
EMC at maheshwaram to Major airport 2 (Madras/chennai airport): The distance between EMC at Maheshwaram to madras airport is around 637 km. (nearby to madras seaport [around 20-30 km])

13) EMC at Bhubaneswar

Metrices of logistics connectivity to Import-Export ports:

Nearest International Air Port: **Bhubaneswar Air**
Top two major sea ports: **Madras Sea, JNPT**
Top two nearest major Air ports: **Chennai/Madras Air, Bangalore air**
Nearest Arterial road: **E-S corridor**

A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:

EMC at Bhubaneswar to nearest arterial (E-S corridor): The distance between EMC at Bhubaneswar to nearest arterial (E-S corridor) is around 5 km.
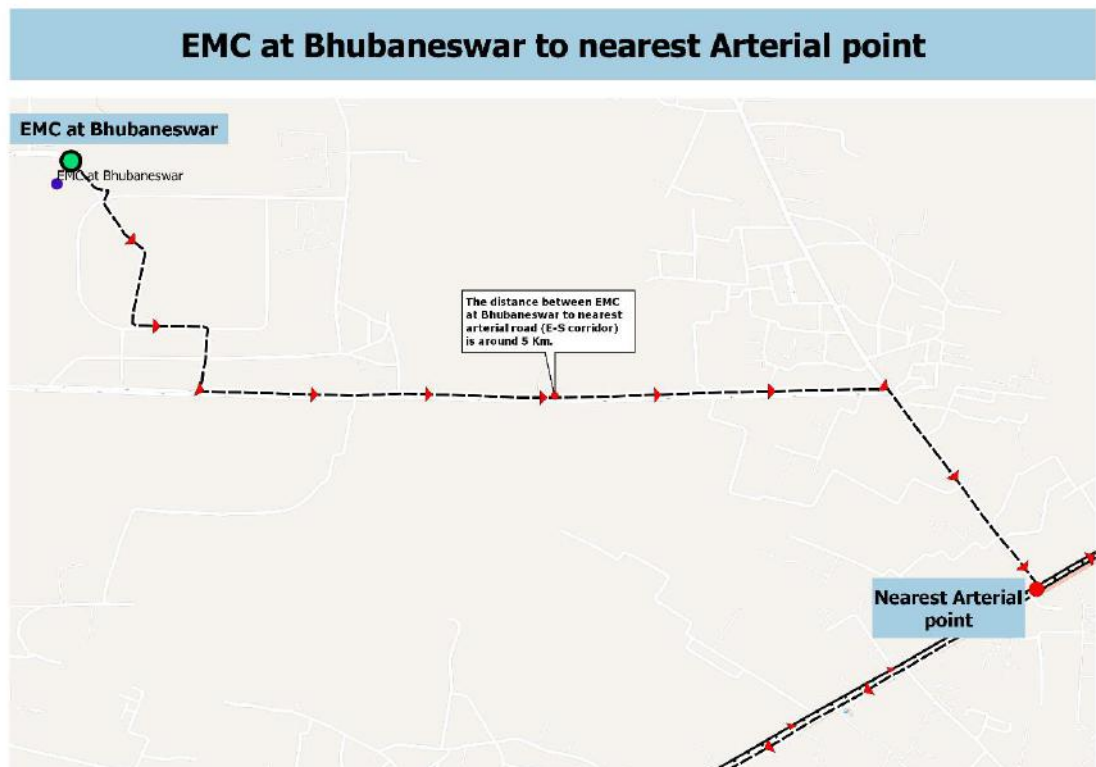
EMC at Bhubaneswar-to-Bhubaneswar Airport:

The distance between EMC at Bhubaneswar-to-Bhubaneswar airport is around 19 km.
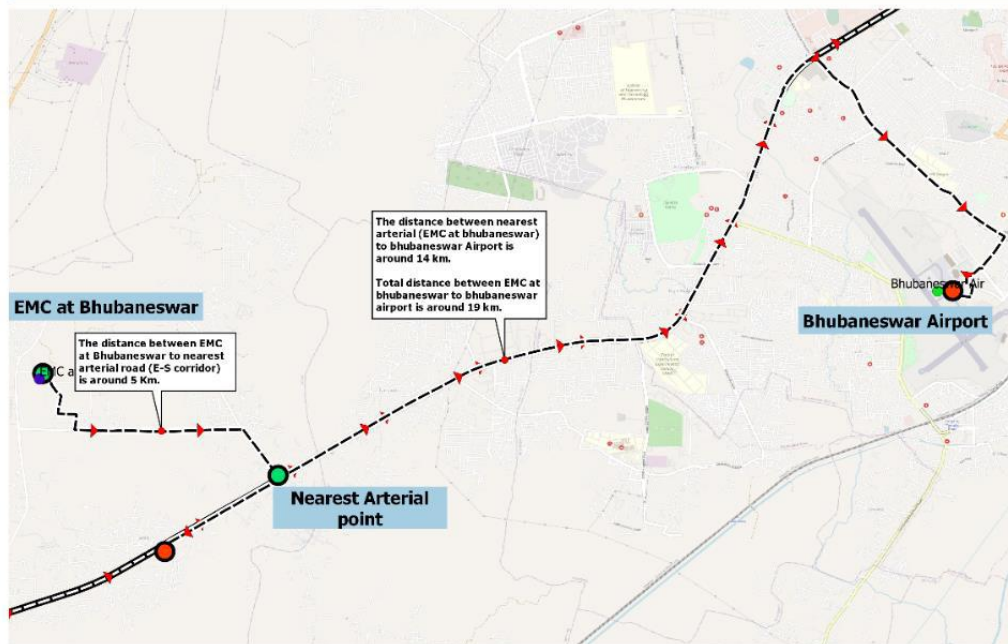
EMC at Bhubaneswar to Nearest international seaport (Vizag seaport): The distance between EMC at Bhubaneswar to vizag seaport is around 405 km.
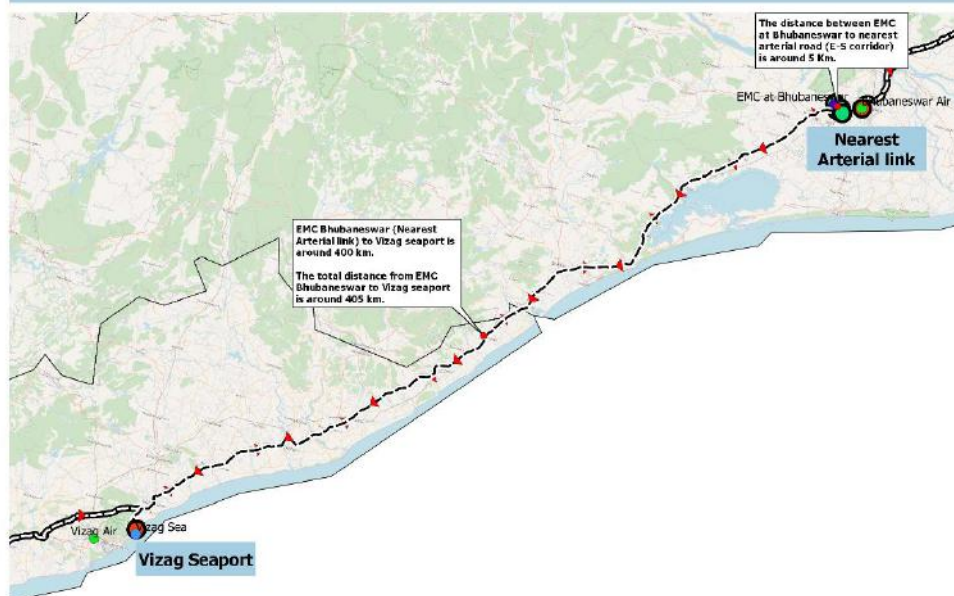
EMC at Bhubaneswar to Major Seaport 1 (Chennai/Madras Seaport): The distance between EMC at Bhubaneswar to Chennai/Madras Seaport is around 1165 km.

EMC Bhubaneswar to Madras Seaport
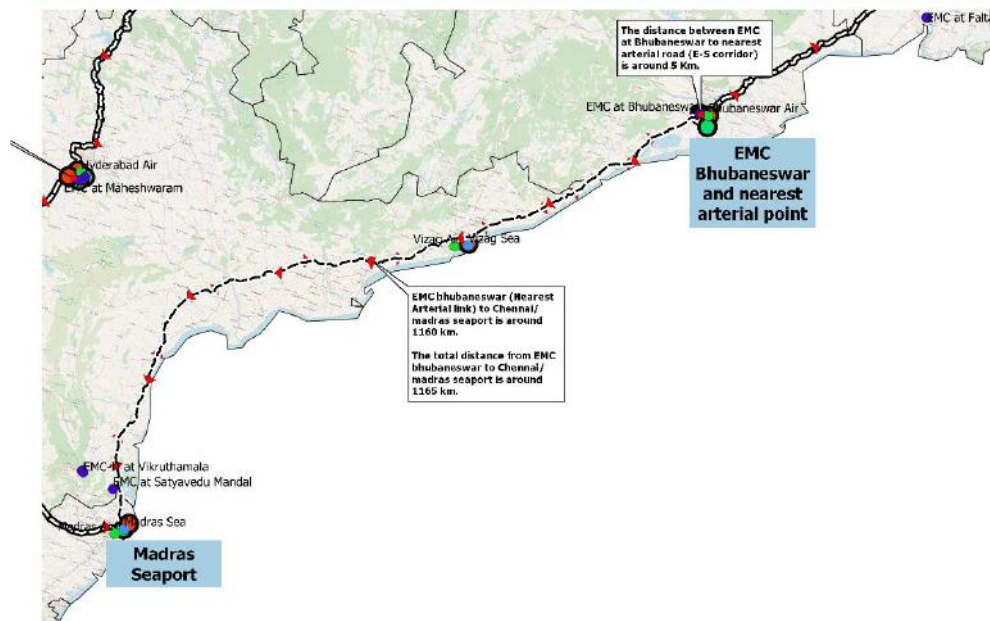
EMC at Bhubaneswar to Nearest international seaport/Major Seaport 2 (JNPT): The distance between EMC at Bhubaneswar to JNPT is around 1725 km.

EMC at Bhubaneswar to JNPT
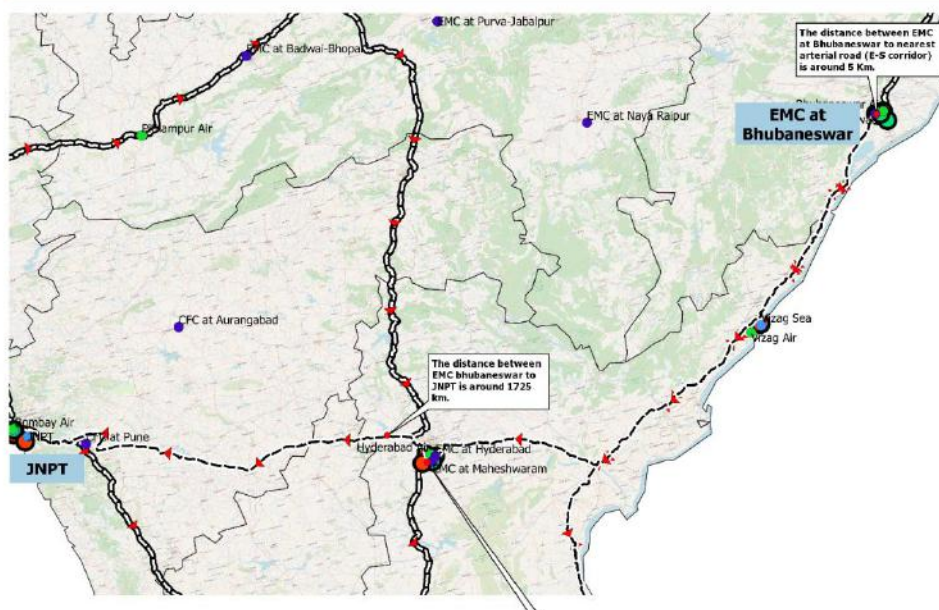
EMC at Bhubaneswar to Major Airport 1 (Chennai/Madras Airport): The distance between EMC at Bhubaneswar to Chennai/Madras Airport is around 1165 km.

EMC at Bhubaneswar to Major Airport 2 (Bangalore Airport): The distance between EMC at Bhubaneswar to Bangalore Airport is around 1383 km.

EMC at Bhubaneswar to Bangalore Airport
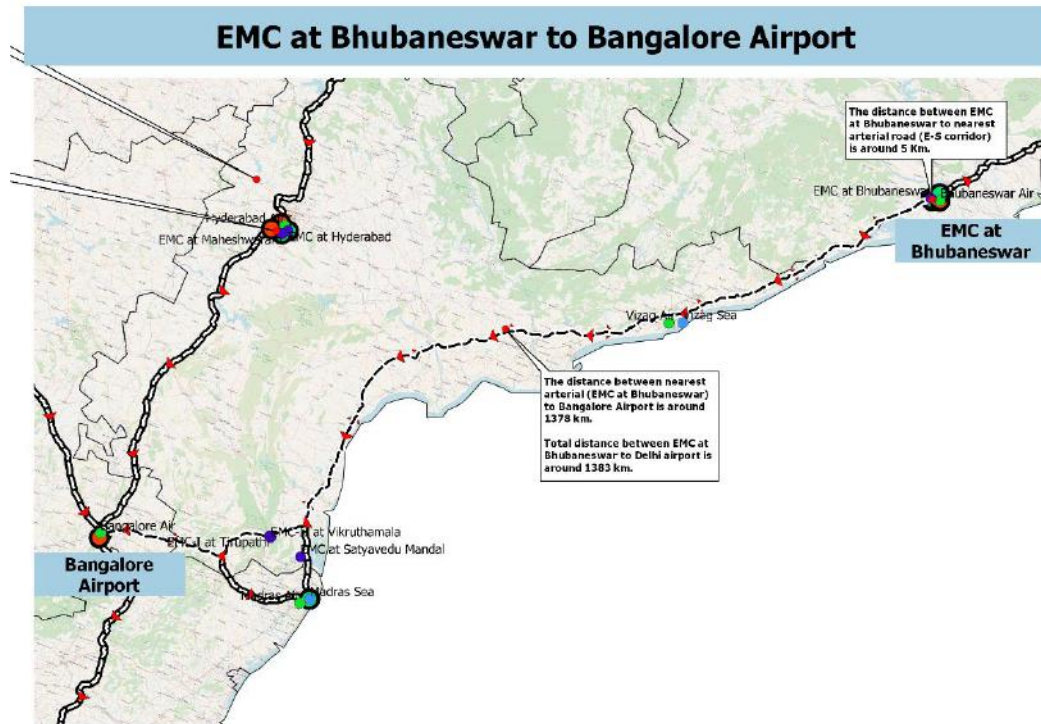
14) EMC at Badwai-Bhopal

Metrices of logistics connectivity to Import-Export ports:

Nearest International Air Port: **Delhi Airport**
Top two major sea ports: **JNPT, Madras/Chennai Seaport**
Top two nearest major Air ports: **Bombay Airport, Delhi Airport**
Nearest Arterial road: **E-W Corridor**

A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:

EMC at Badwai-Bhopal to nearest arterial: The distance between EMC at Badwai-Bhopal to nearest arterial (E-W corridor) is around 8 km.

EMC at Badwai-Bhopal to Nearest Arterial
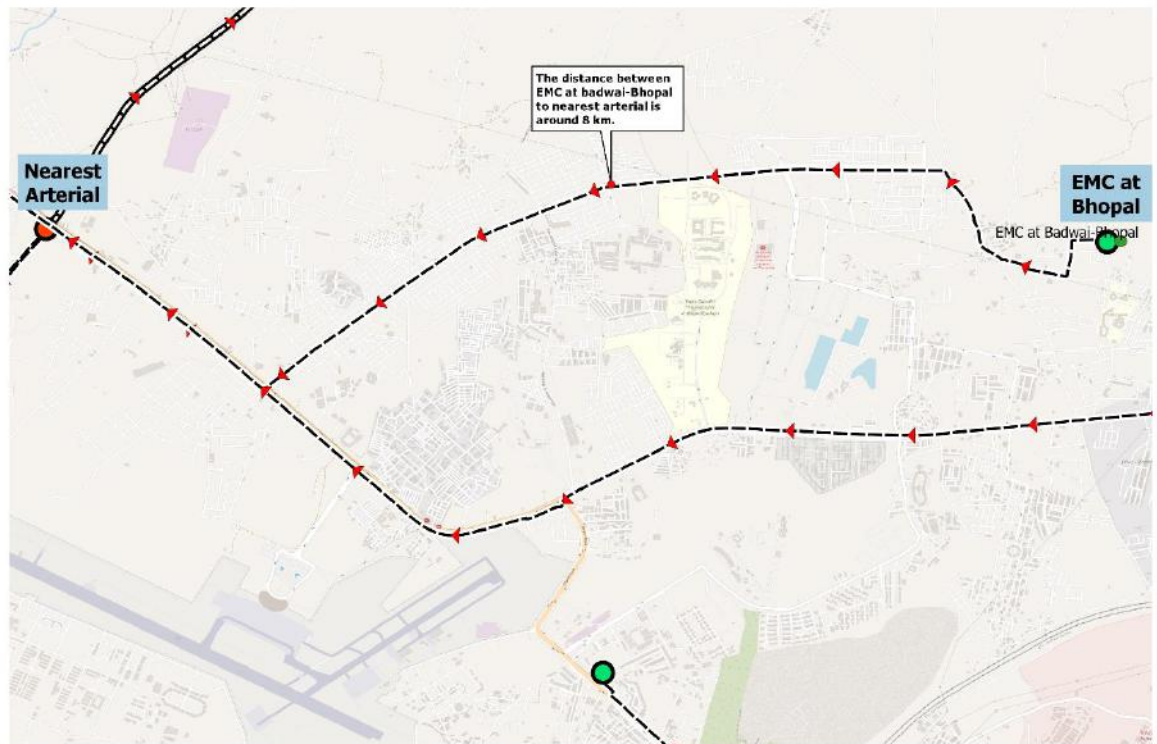
EMC at Badwai-Bhopal to nearest international Seaport/Major seaport 1 (JNPT): The distance between EMC at badwai-bhopal to JNPT is around 733 km.

EMC at Badwai-Bhopal to JNPT
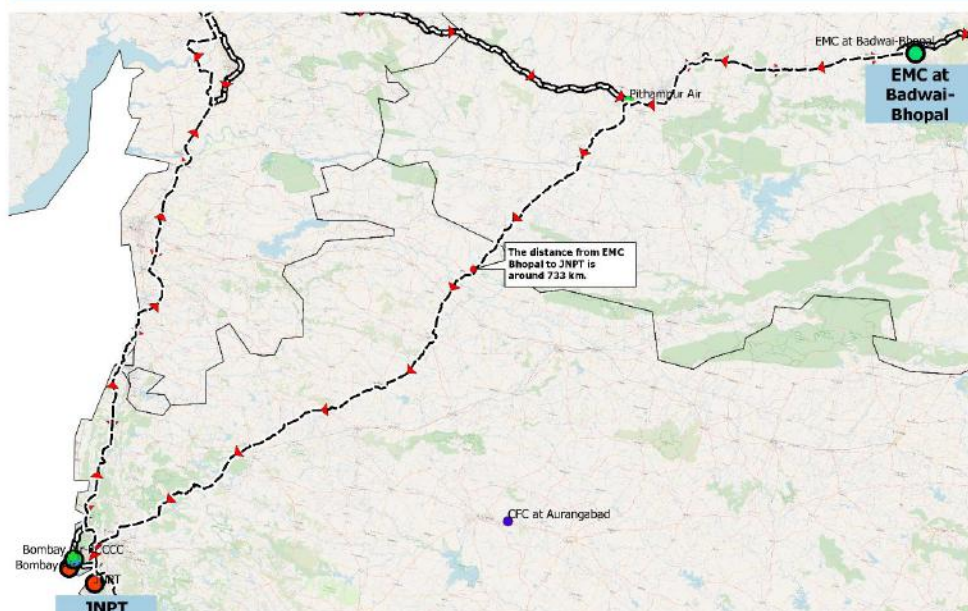
EMC at Badwai-Bhopal to nearest international Seaport/Major seaport 2 (Chennai/Madras seaport): The distance between EMC at badwai-bhopal to Chennai/Madras seaport is around 1485 km.

EMC at Bhopal to Chennai/Madras Seaport
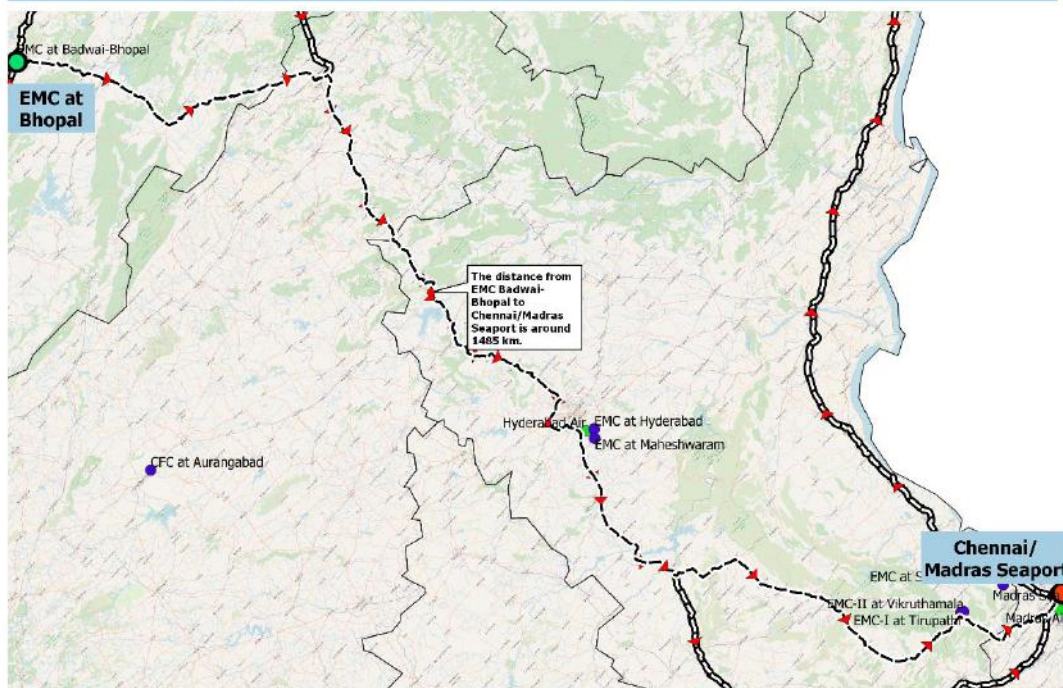
EMC at badwai-bhopal to Nearest Airport/Major Airport 1 (Delhi airport): The distance between Badwai-bhopal to delhi airport is around 713 km.

EMC at Badwai-Bhopal to Delhi airport
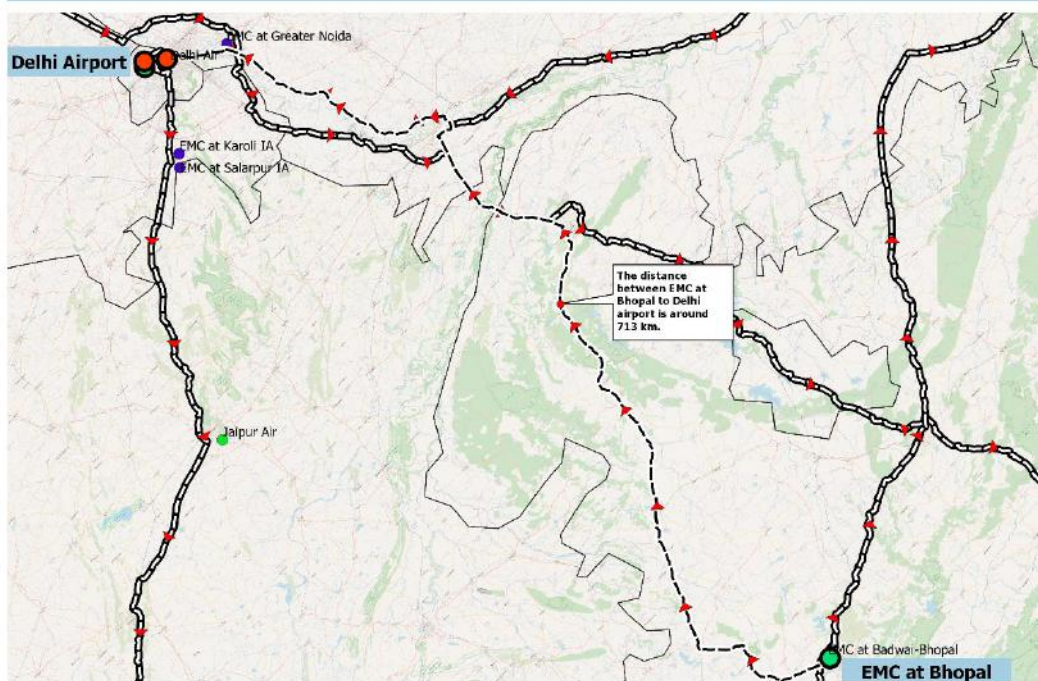
EMC at badwai-bhopal to Major Airport 2 (Mumbai/Bombay airport): The distance between Badwai-bhopal to Mumbai/Bombay airport is around 733 km. (nearby to JNPT Seaport)

15) EMC at Kakkanad

Metrices of logistics connectivity to Import-Export ports:

Nearest International Air Port: **Cochin**
Top two nearest major sea ports: **JNPT, Madras**
Top two nearest major Air ports: **Bangalore, Mumbai**
Nearest Arterial road: **N-S corridor**

**A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:**

EMC at Kakkanad to nearest arterial (N-S corridor): The distance between EMC at kakkanad to nearest arterial is around 197 km.

EMC at Kakkanad to Nearest arterial

EMC at kakkanad to nearest arterial road (N-S corridor) via NH544.

The distance between EMC at kakkanad to nearest arterial road (N-S corridor) is around 197 Km.
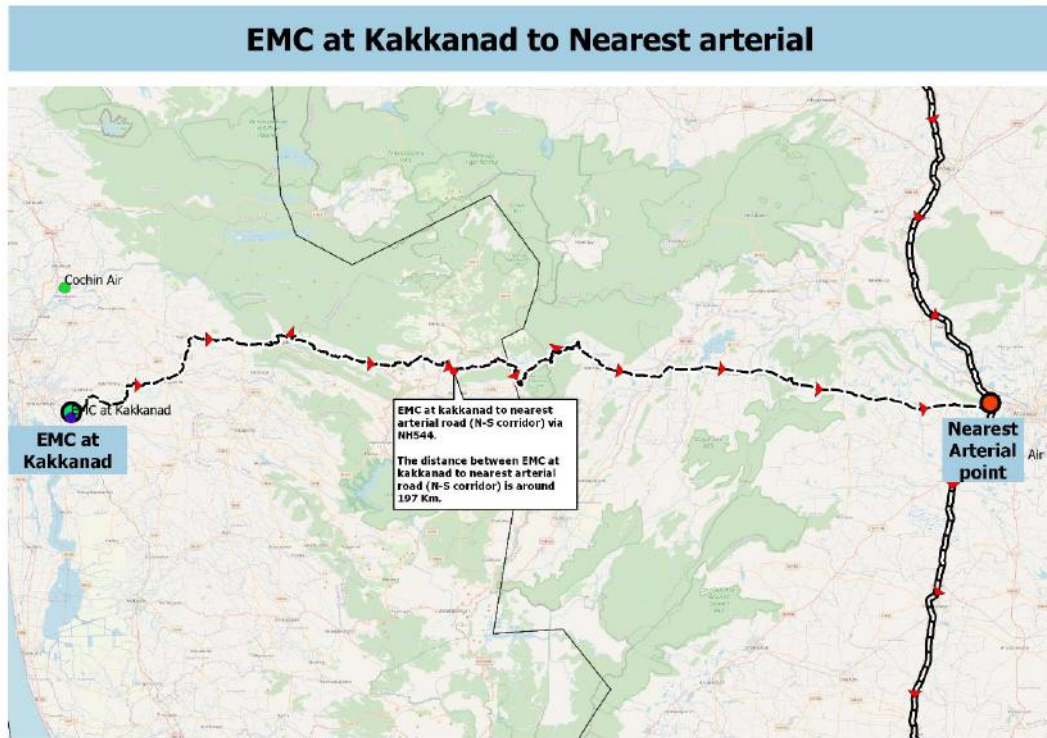
EMC at kakkanad to nearest international seaport (Cochin seaport): The distance between EMC at kakkanad to cochin seaport is around 20 km.

EMC at kakkanad to Cochin Seaport
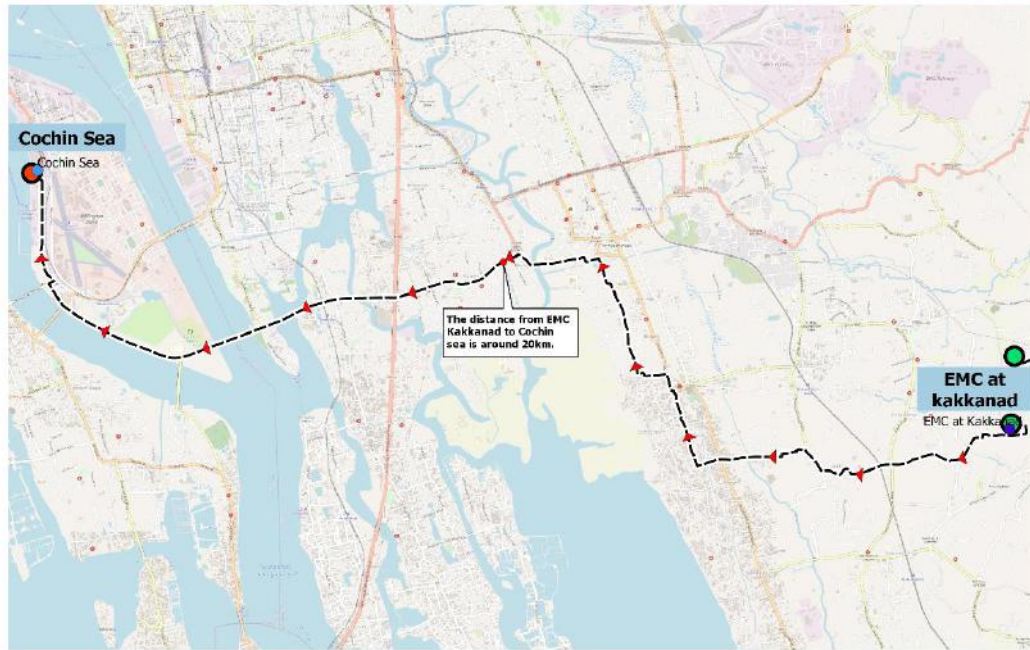
EMC at kakkanad to nearest international airport (Cochin airport): The distance between EMC at kakkanad to cochin airport is around 38 km.

EMC at kakkanad to cochin airport
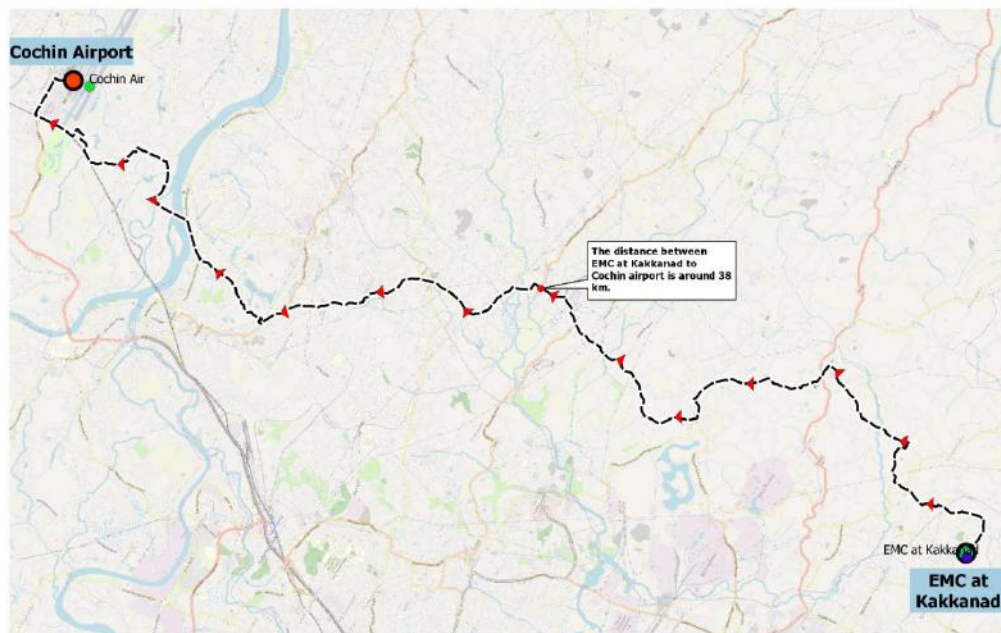
EMC at kakkanad to Major Seaport 1 (JNPT seaport): The distance between EMC at kakkanad to JNPT seaport is around 506 km.

EMC at Kakkanad to JNPT

EMC at kakkanad to Major Seaport 2 (Madras seaport): The distance between EMC at kakkanad to madras seaport is around 661 km.

EMC at Kakkanad to Chennai/Madras Seaport
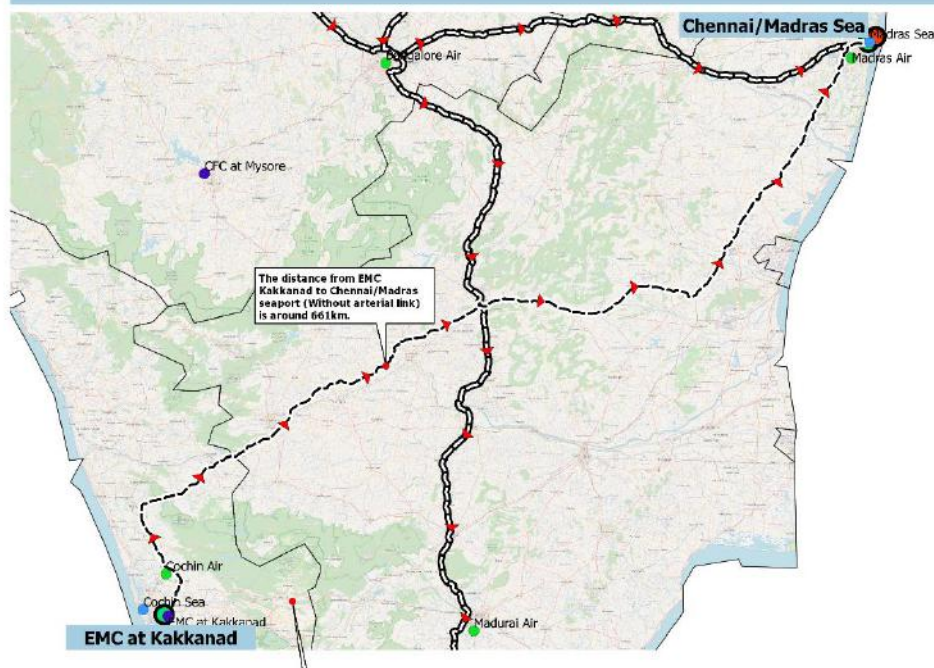
EMC at kakkanad to Major Airport 1 (bangalore airport): The distance between EMC at kakkanad to bangalore airport is around 505 km.

EMC at Kakkanad to Bangalore Airport

The distance from EMC Kakkanad to bangalore airport is around 505 km.
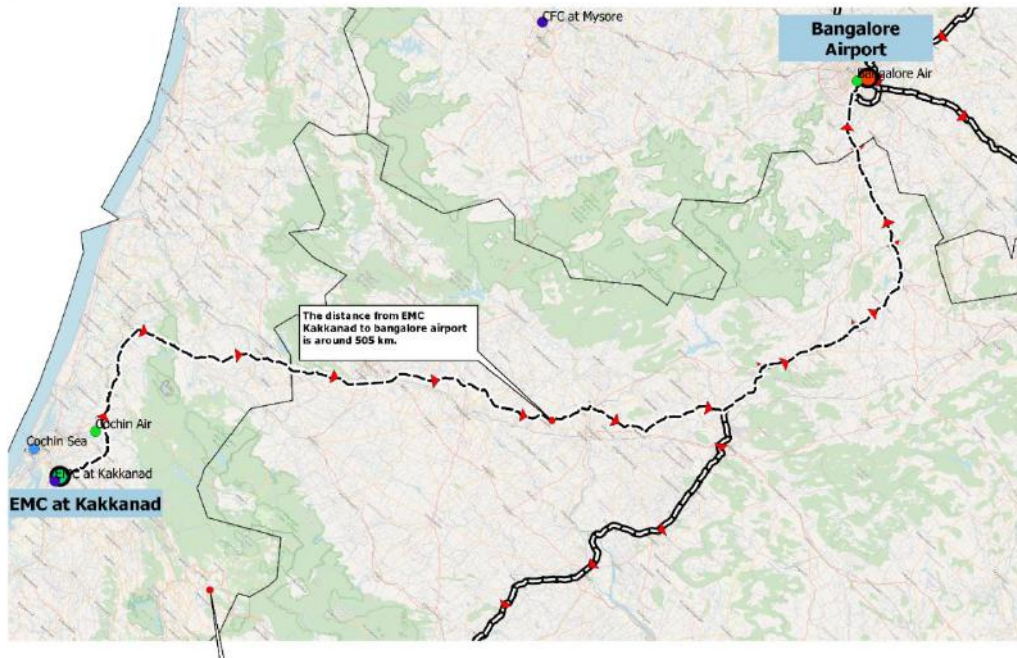
EMC at kakkanad to Major Airport 2 (Bombay airport): The distance between EMC at kakkanad to Bombay airport is around 506 km. <mark>(nearby to JNPT seaport)</mark>

EMC at kakkanad to Major Airport 2 (Madras airport): The distance between EMC at kakkanad to madras airport is around 661 km. <mark>(nearby to madras seaport)</mark>

16) CFC at Mysore

Metrices of logistics connectivity to Import-Export ports:

Nearest International Air Port: **Bangalore Airport**
Top two major sea ports: **Madras Seaport, JNPT**
Top two nearest major Air ports: **Bangalore Air, Chennai Airport**
Nearest Arterial road: **N-S corridor**

A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:

CFC at Mysore to nearest arterial: The distance between CFC at mysore to nearest arterial (N-S corridor) is around 156 km.

CFC at mysore to nearest arterial point

CFC at mysore to nearest arterial road (N-S corridor) via NH948.

The distance between CFC at mysore to nearest arterial road (N-S corridor) is around 156 km.
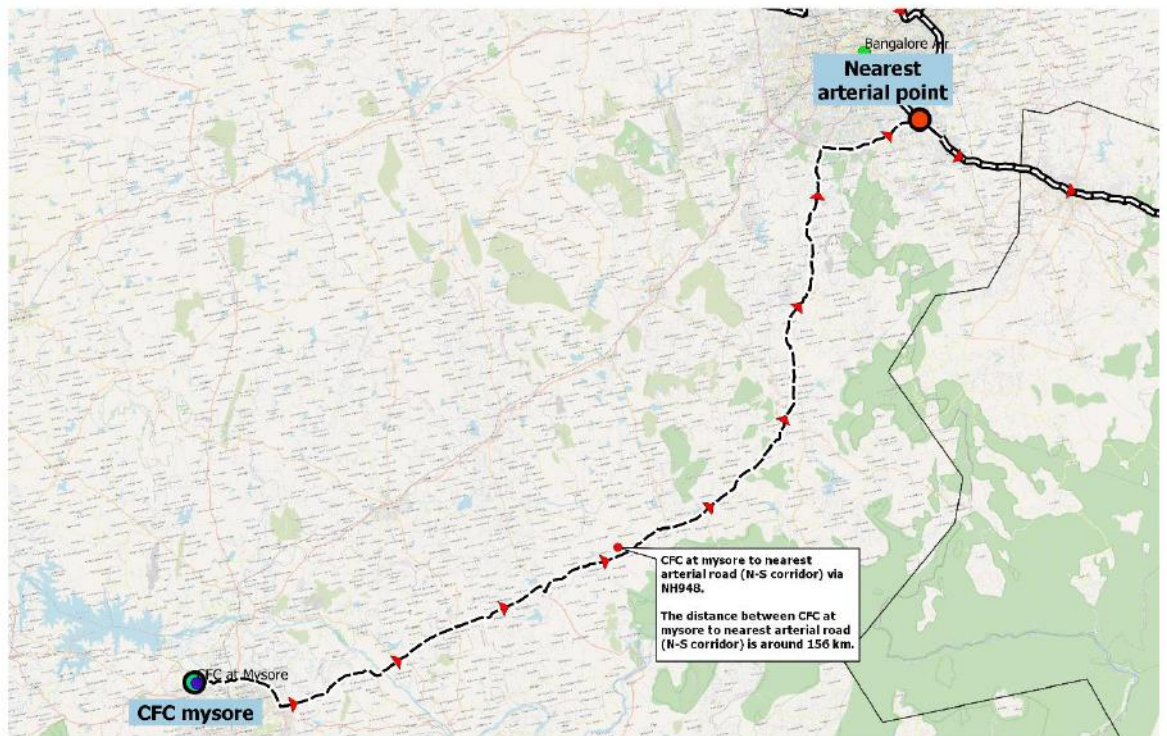
CFC at mysore to nearest international airport/Major Airport 1 (bangalore airport): The distance between CFC at mysore to bangalore airport is around 136 km.

CFC at Mysore to Bangalore Airport
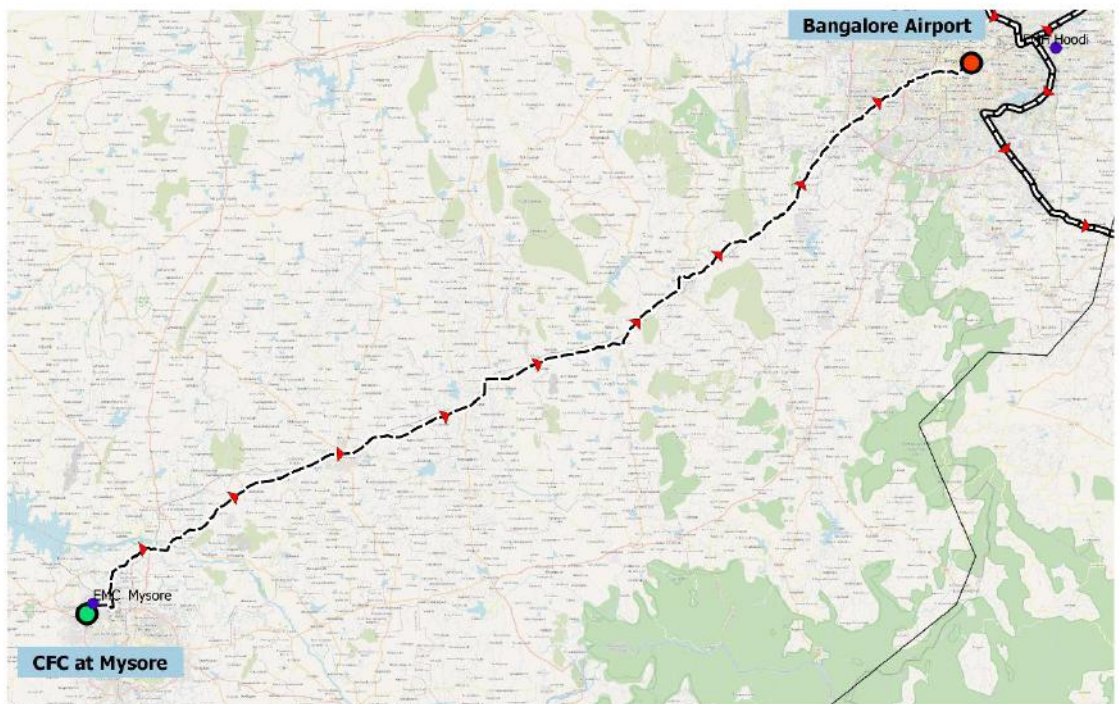
CFC at mysore to Nearest international seaport/Major Seaport 1 (Madras seaport): The distance between CFC at mysore to madras seaport is around 470 km.

CFC at Mysore to Madras Seaport
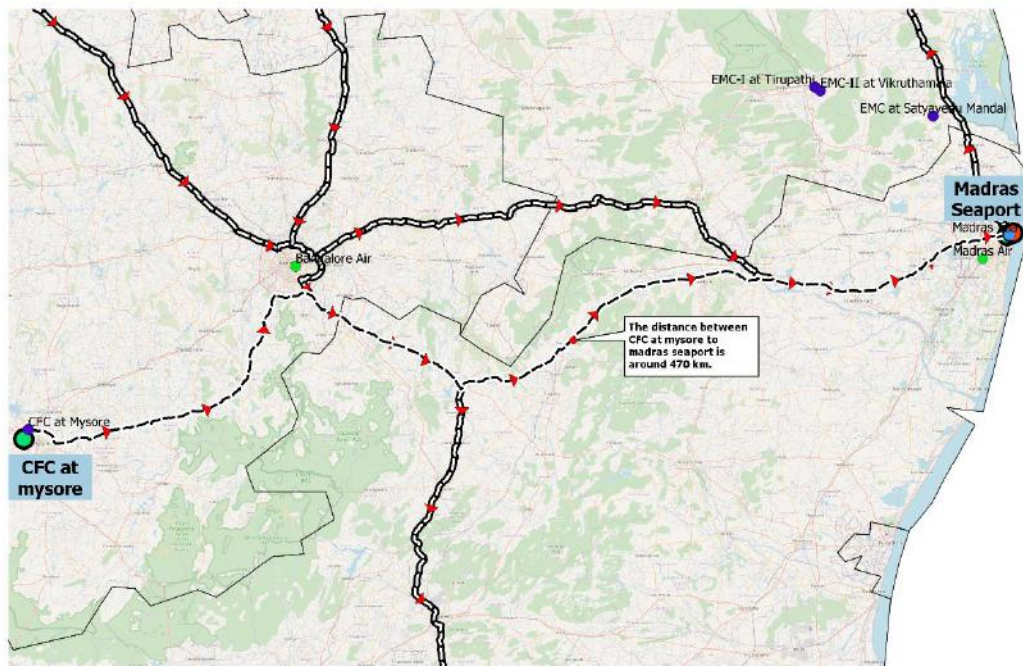
CFC at mysore to Major Seaport 2 (JNPT seaport): The distance between CFC at mysore to JNPT seaport is around 1094 km.

CFC at Mysore to JNPT
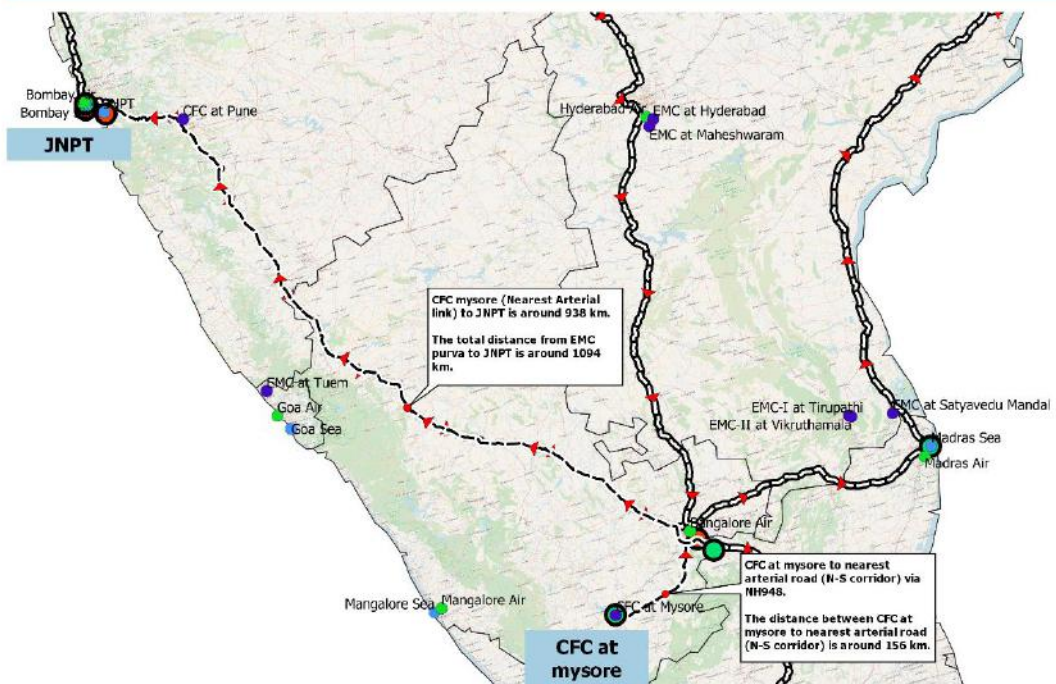
CFC at mysore to Major Airport 2 (chennai airport): The distance between CFC at mysore to chennai airport is around 470 km. (nearby to madras seaport)

17) EMC at Mundra

Metrices of logistics connectivity to Import-Export ports:

Nearest International Air Port: **Ahmedabad Airport**
Top two major sea ports: **JNPT, Madras Seaport**
Top two nearest major Air ports: **Bombay Airport, Delhi Airport**
Nearest Arterial road: **W-E corridor**

**A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:**

EMC at Mundra to nearest arterial (W-E corridor): The distance between EMC at mundra to nearest arterial (W-E corridor) is around 240 km.
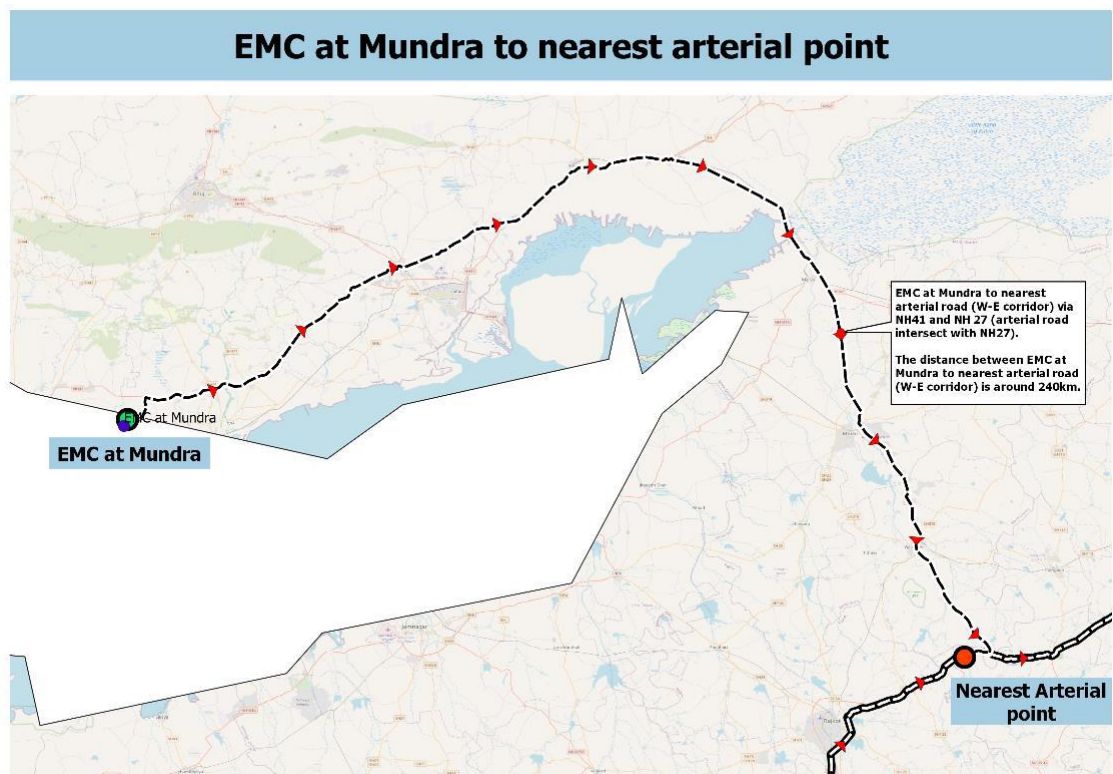
EMC at Mundra to nearest international airport (Ahmedabad Airport): The distance between EMC at mundra to Ahmedabad airport is around 357 km.

EMC at Mundra to Ahmedabad Airport
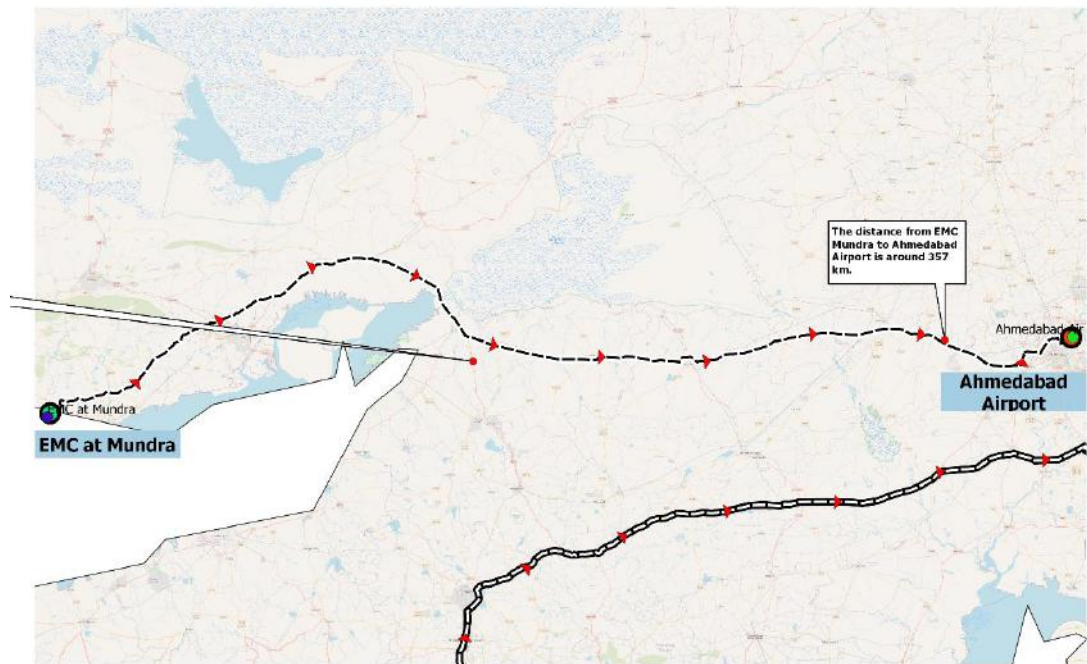
EMC at Mundra to nearest international seaport/Major Seaport 1 (JNPT Seaport): The distance between EMC at mundra to JNPT seaport is around 852 km.

EMC at Mundra to JNPT
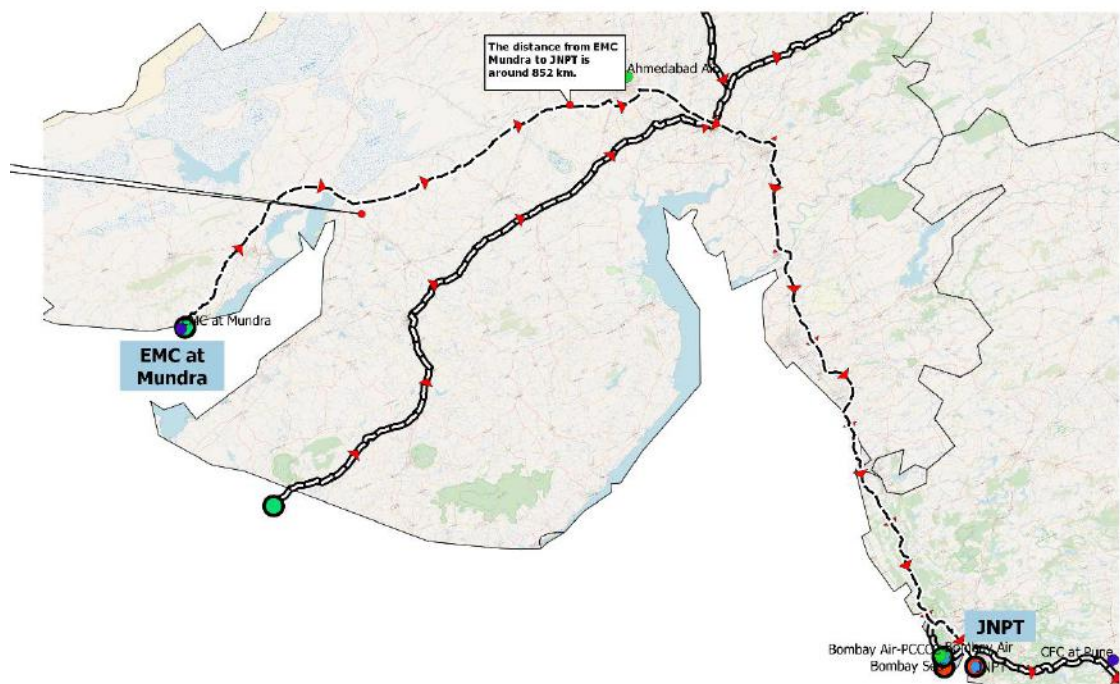
EMC at Mundra to Major Seaport 2 (Chennai/Madras Seaport): The distance between EMC at mundra to Chennai/Madras seaport is around 2023 km.

EMC at Mundra to Chennai/Madras Seaport
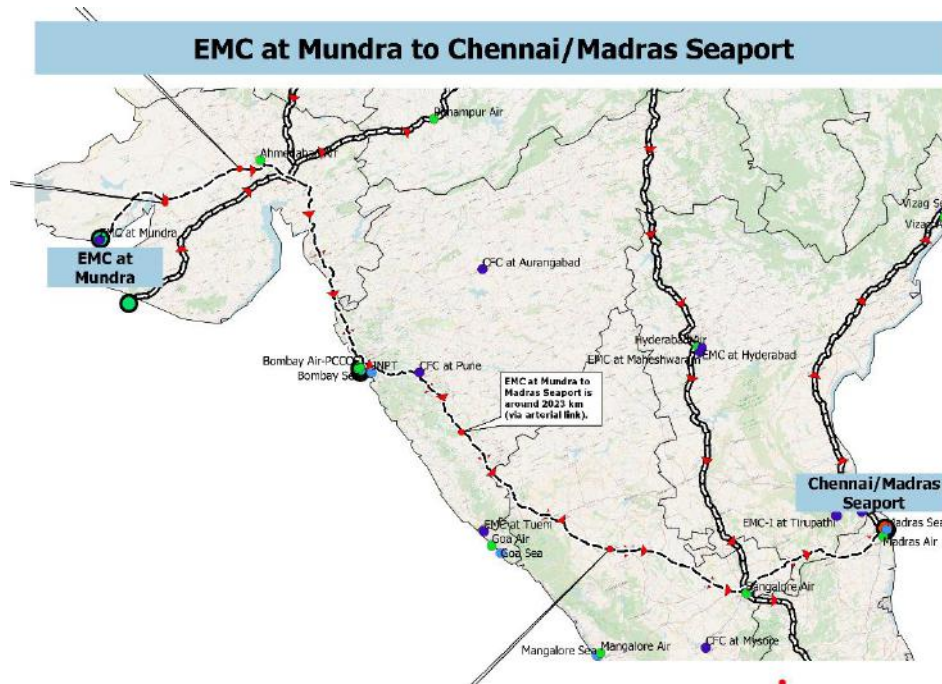
EMC at Mundra to Major Airport 1 (Bombay Airport): The distance between EMC at mundra to Bombay airport is around 852 km. (nearby to jnpt seaport)

EMC at Mundra to Major Airport 2 (Delhi Airport): The distance between EMC at mundra to delhi airport is around 1113 km.

EMC at Mundra to Delhi Airport
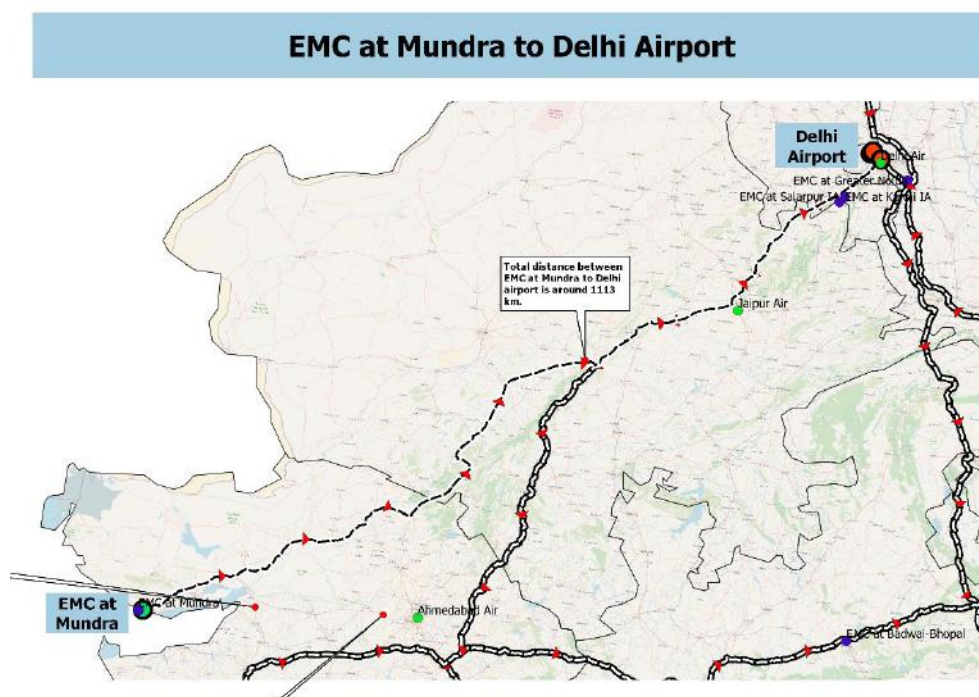
18) EMC at Tuem, Goa

Metrices of logistics connectivity to Import-Export ports:

Nearest International Air Port: **Goa airport**
Top two major sea ports: **JNPT, Chennai/Madras Seaport**

Top two nearest major Air ports: **Chennai/Madras Airport, Mumbai Airport**
Nearest Arterial road: **W-S corridor**

A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:

EMC at Tuem (Goa) to nearest arterial (Golden quadrilateral (W-S corridor)): The distance between EMC at Tuem (Goa) to nearest arterial (Golden quadrilateral (W-S corridor)) is around 103 km.
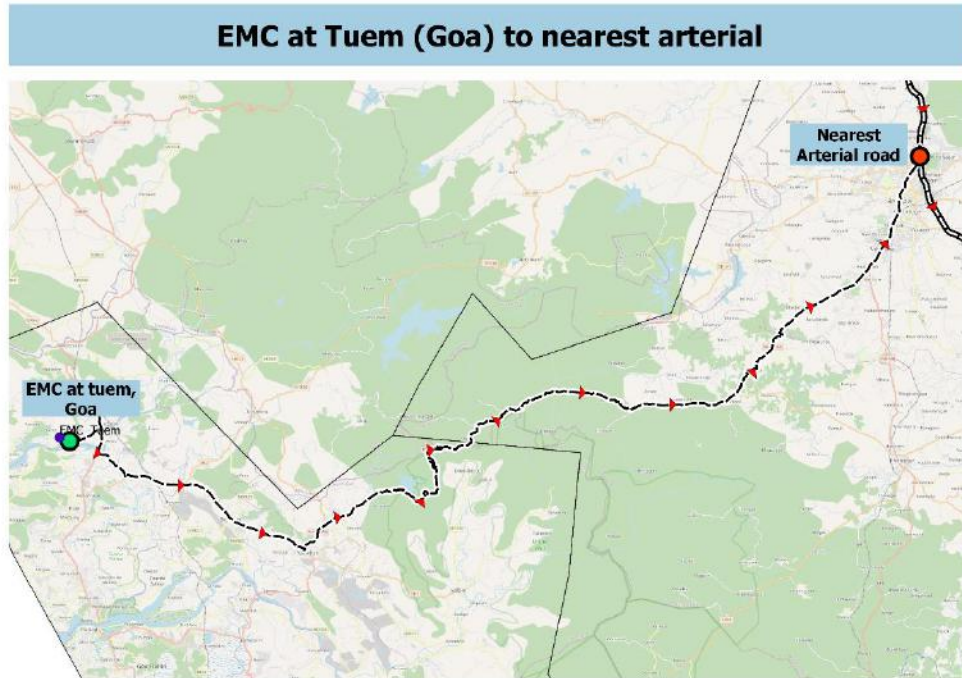
EMC at Tuem (Goa) to nearest international airport (Goa Airport): The distance between EMC at Tuem (Goa) to goa airport is around 53 km.

EMC at Goa to Goa Airport

The distance between EMC at tuem (goa) to goa airport is around 53 km.
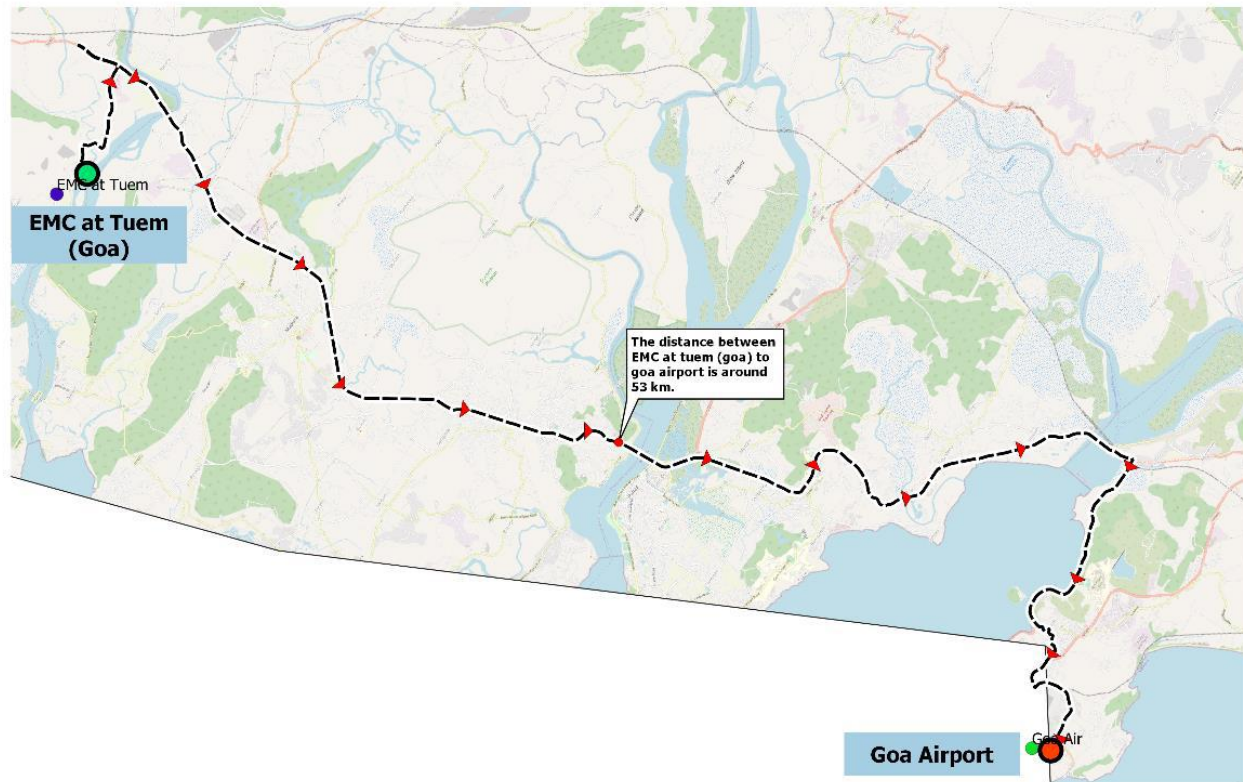
EMC at Tuem (Goa) to nearest international Seaport (Goa Seaport): The distance between EMC at Tuem (Goa) to goa seaport is around 67 km.

The distance between EMC at tuem (goa) to goa seaport is around 67 km.
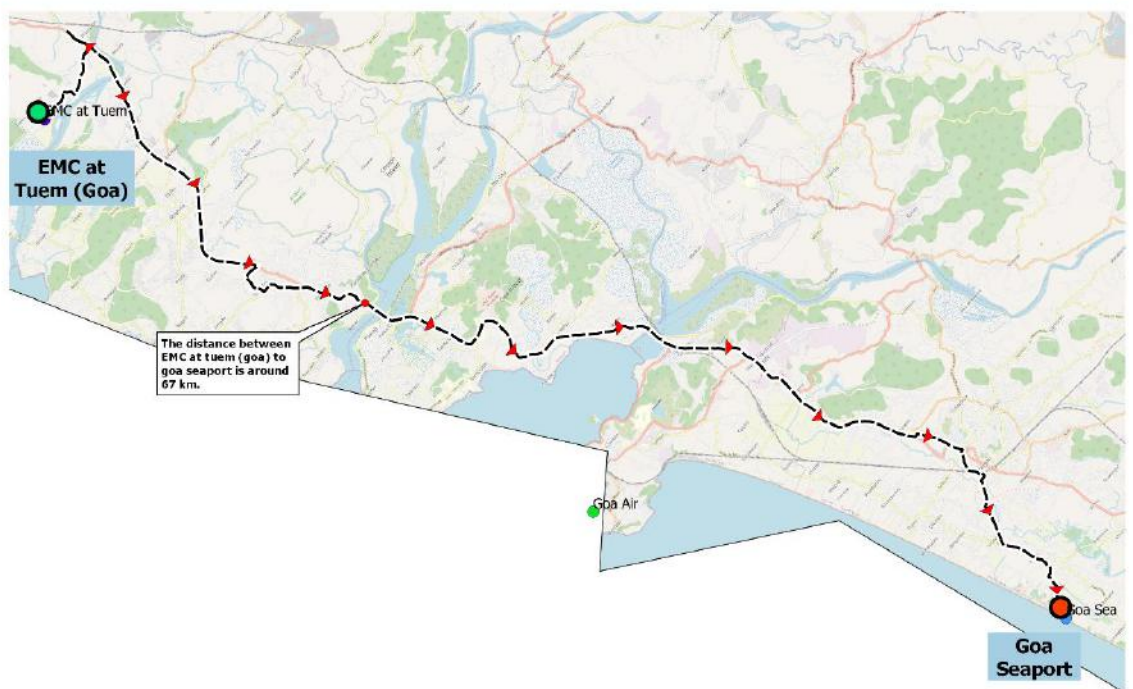
EMC at Tuem (Goa) to Major Seaport 1 (JNPT Seaport): The distance between EMC at Tuem (Goa) to JNPT seaport is around 528 km.
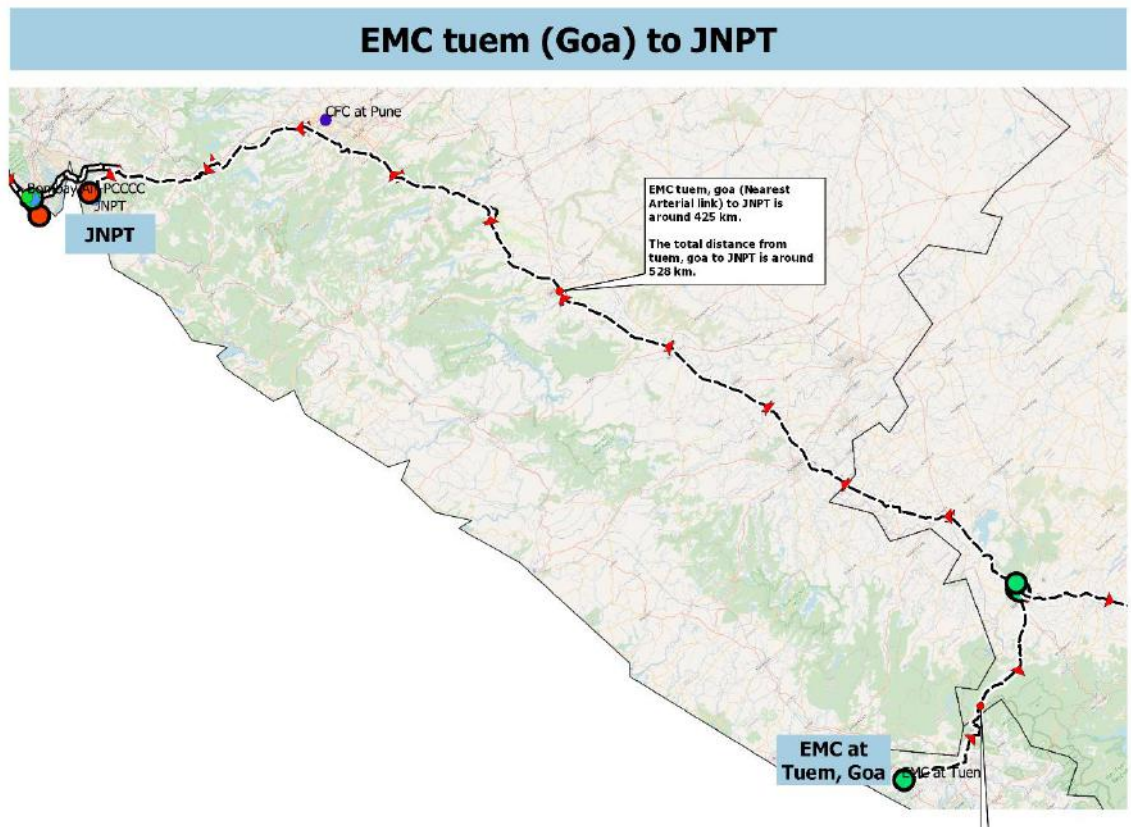
EMC at Tuem (Goa) to Major Seaport 2 (Chennai /Madras Seaport): The distance between EMC at Tuem (Goa) to goa seaport is around 944 km.

EMC at Tuem (Goa) to Chennai/ Madras Seaport

EMC goa (Nearest Arterial link) to Chennai/Madras seaport is around 841 km.

The total distance from EMC goa to Chennai/ Madras seaport is around 944 km.
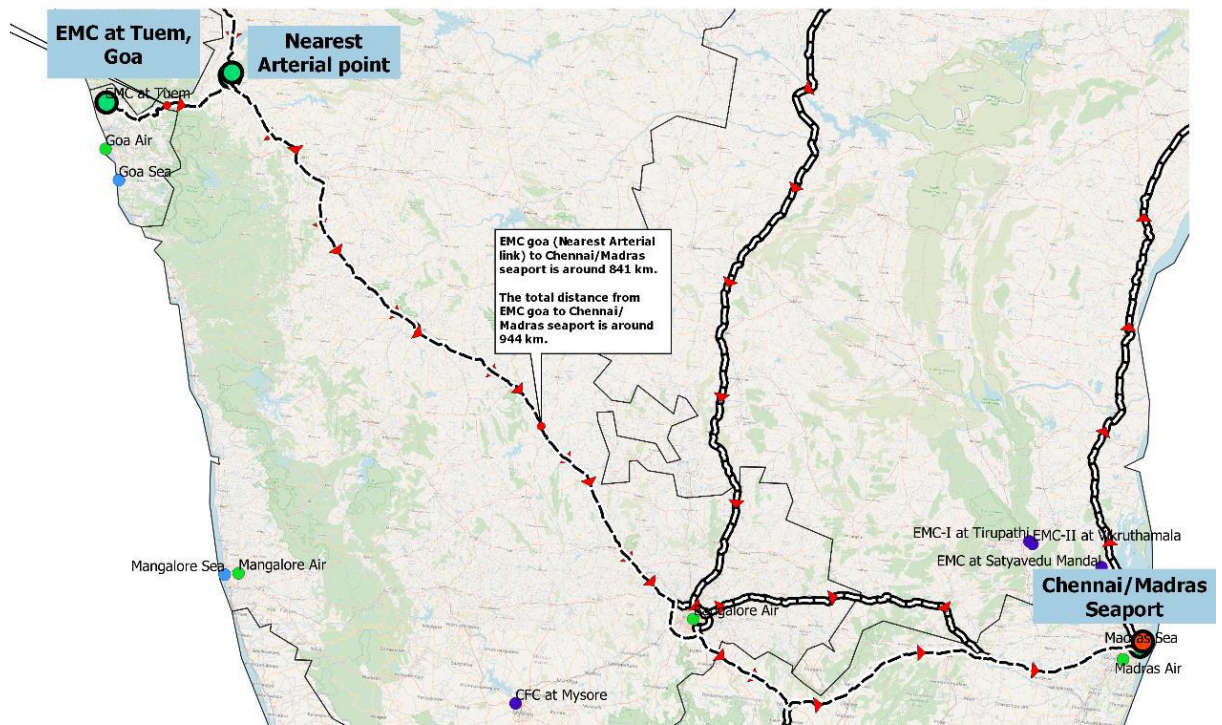
EMC at Tuem (Goa) to Major Airport 1 (Bombay Airport): The distance between EMC at Tuem (Goa) to Bombay airport is around 528 km. (nearby to JNPT seaport)

EMC at Tuem (Goa) to Major Airport 2 (Chennai/Madras Airport): The distance between EMC at Tuem (Goa) to Chennai/Madras airport is around 944 km. (nearby to JNPT seaport)

19) EMC at Bongora

Metrices of logistics connectivity to Import-Export ports:

Nearest International Air Port: **Calcutta Airport**
Top two major sea ports: **JNPT, Madras/Chennai Seaport**
Top two nearest major Air ports: **Delhi Airport, Bombay Airport/Chennai Airport**
Nearest Arterial road: **W-E corridor**

A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:

EMC at Bongora to nearest Arterial (W-E corridor): The distance between EMC at bongora to nearest arterial point (W-E corridor) is around 17 km.
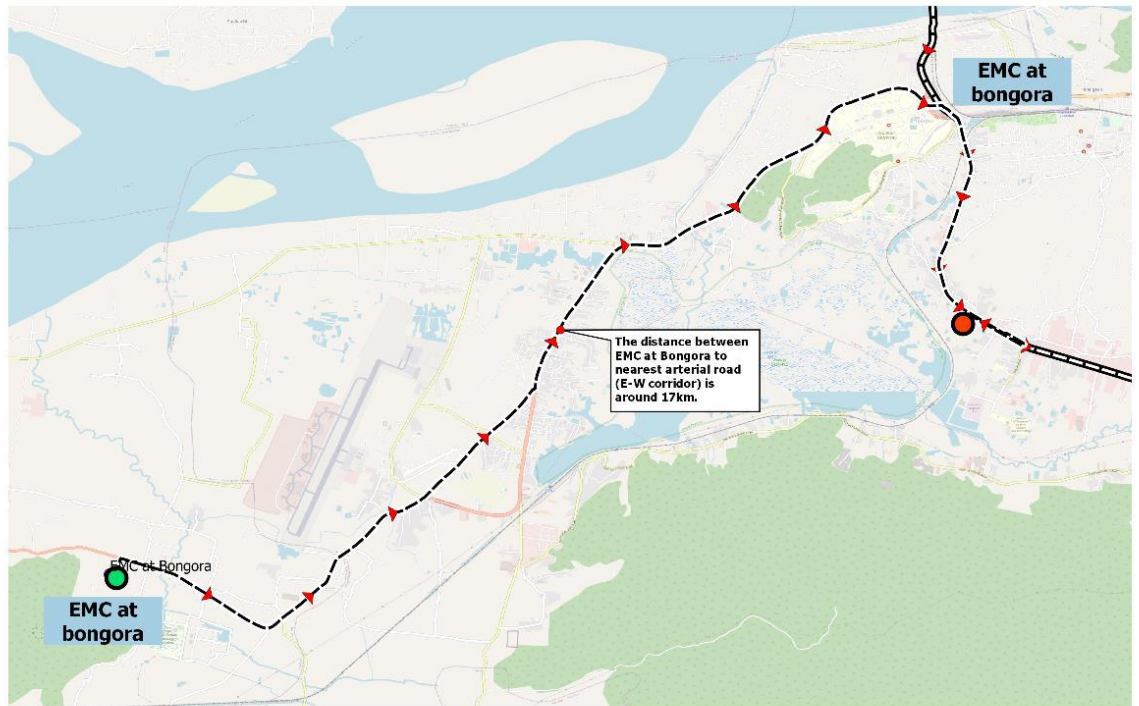
EMC at bongora to Nearest Arterial

The distance between EMC at Bongora to nearest arterial road (E-W corridor) is around 17km.

EMC at Bongora to nearest International Airport (Calcutta Airport): The distance between EMC at bongora to calcutta airport is around 887 km.
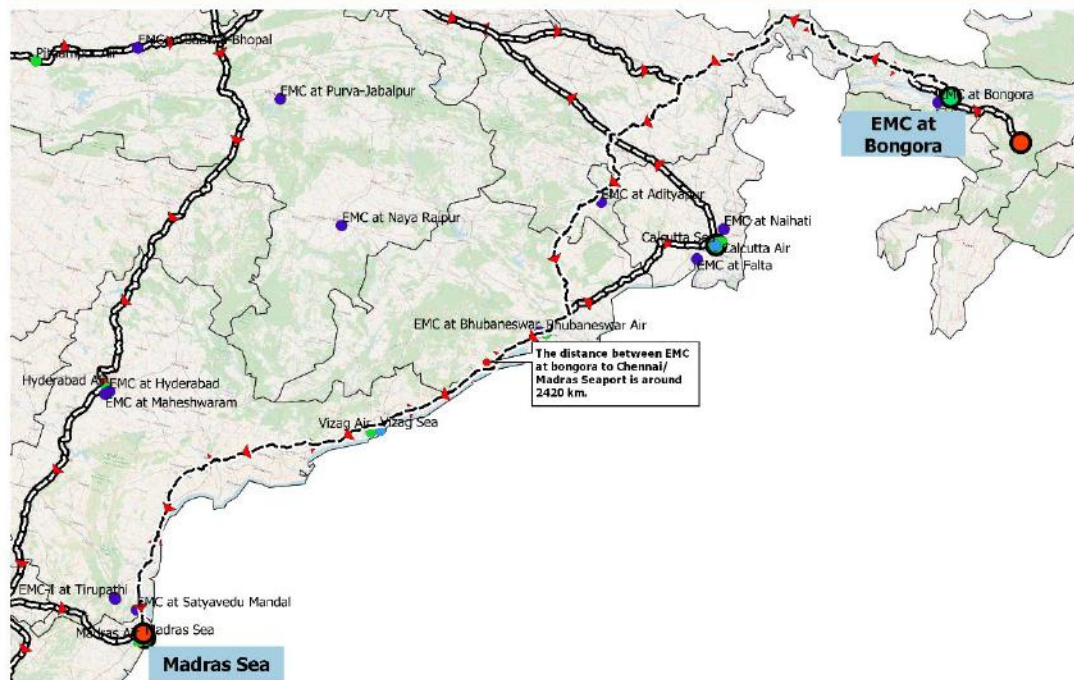

EMC at Bongora to Calcutta Airport

The distance between EMC at bongora to calcutta airport is around 887 km.
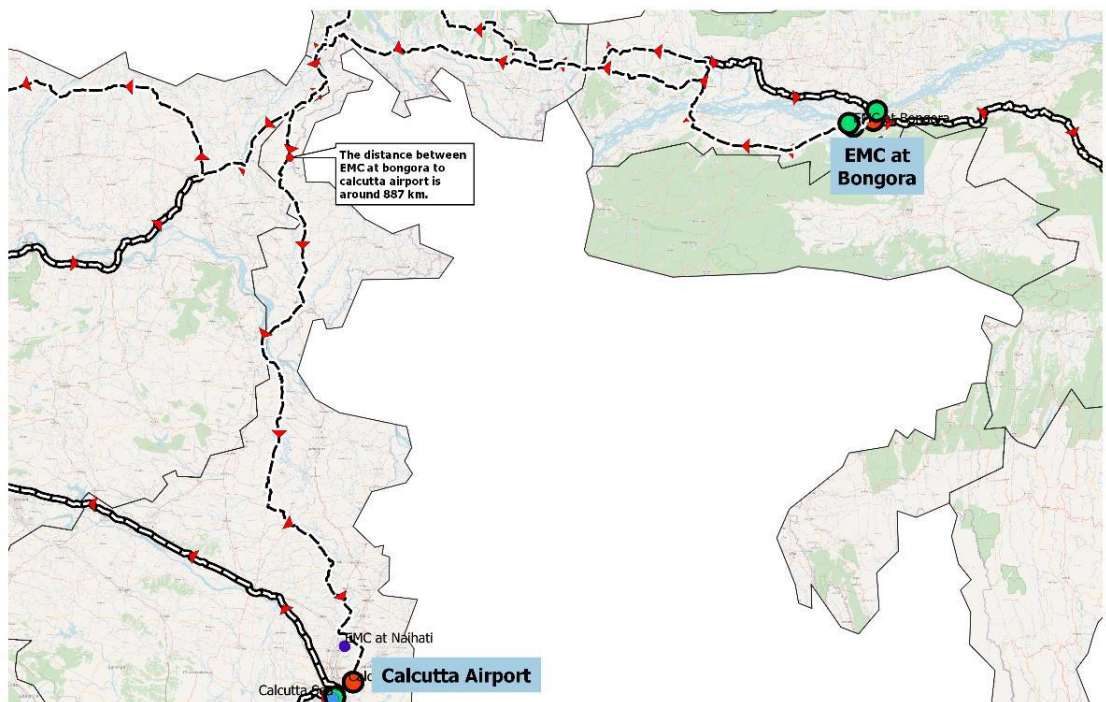
EMC at Bongora to nearest International Seaport (Calcutta Seaport): The distance between EMC at bongora to calcutta seaport is around 907 km.

EMC at Bongora to Calcutta Seaport

The distance between EMC at bongora to calcutta seaport is around 907 km.

EMC at Naihati

Calcutta Seaport
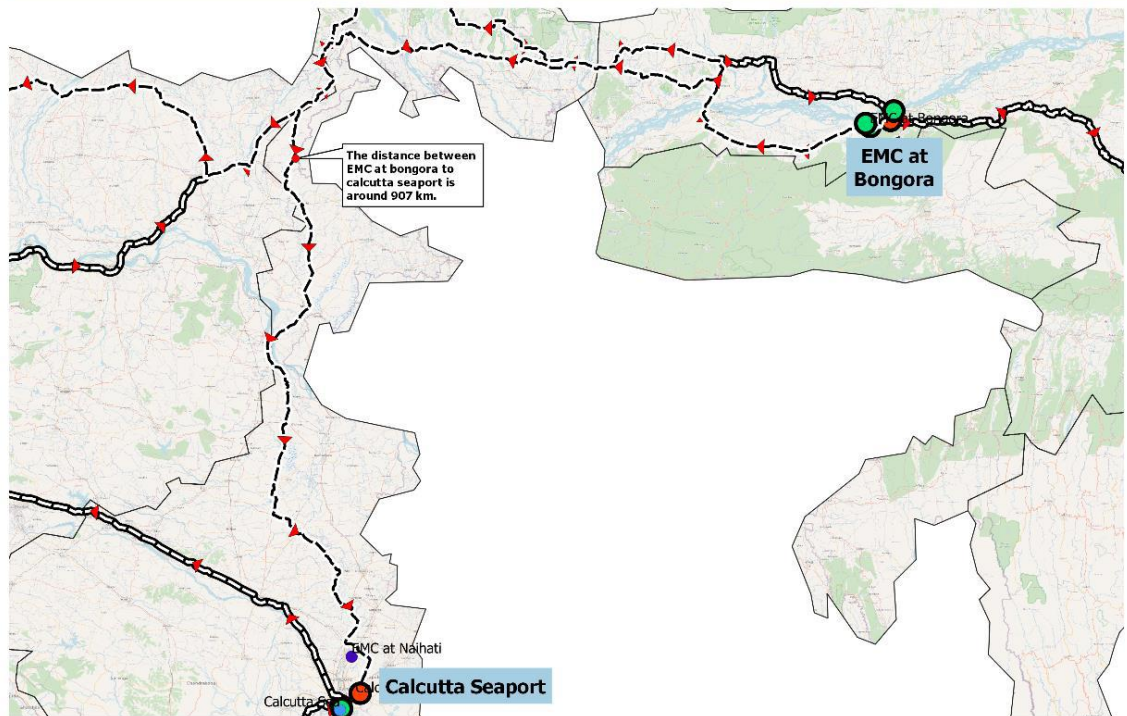
EMC at Bongora to Major Seaport 2 (JNPT): The distance between EMC at bongora to JNPT seaport is around 2580 km.

EMC at bongora to JNPT

EMC at bongora

Delhi EMC at Greater Noida
EMC at Salarpur EMC at Naroli IA
Jaipur Air

The distance between EMC at bongora to JNPT is around 2580 km.

EMC at Naihati
EMC at Adityapur Calcutta Sea
EMC at Falta

EMC at Purva-Jabalpur
EMC at Badwai Bhopal

Ahmedabad Air Pithampur Air
EMC at Naya Raipur
Bhubaneswar Air
EMC at Bhubaneswar

CFC at Aurangabad

Vizag Air Vizag Sea

Bombay JNPT

EMC at Bongora to Major Seaport 1 (Madras/Chennai Seaport): The distance between EMC at bongora to Madras/Chennai seaport is around 2420 km.

EMC at Bongora to Major Airport 1 (Delhi Airport): The distance between EMC at bongora to Delhi airport is around 1808 km.
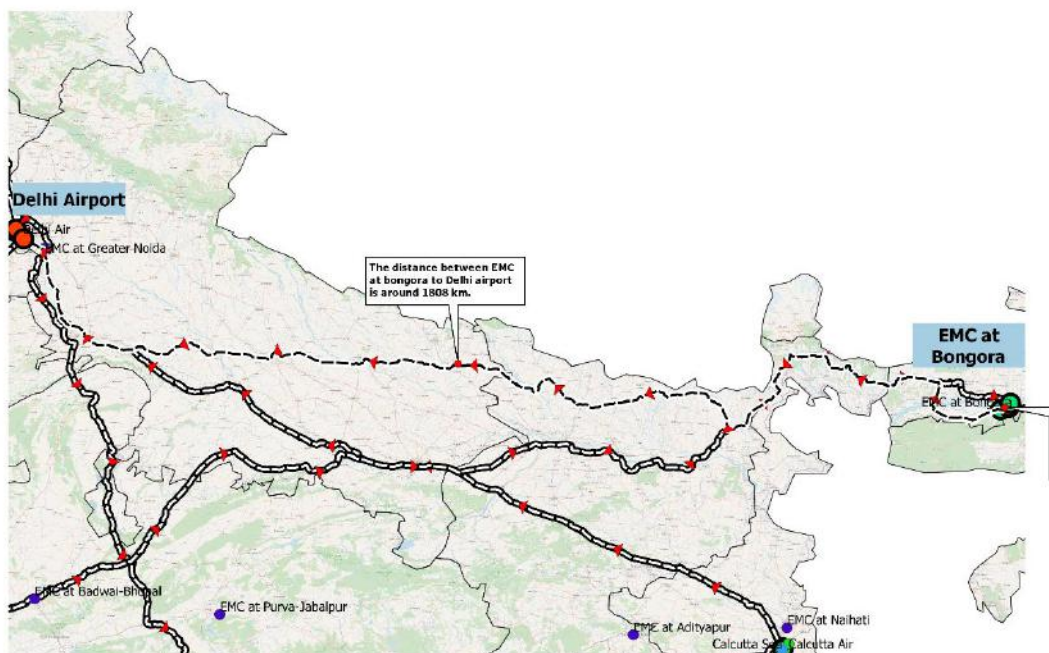
EMC at Bongora to Major Airport 2 (Madras/Chennai Airport): The distance between EMC at bongora to Madras/Chennai airport is around 2420 km. (nearby to madras seaport)

20) EMC at Satyavedu Mandal

Metrices of logistics connectivity to Import-Export ports:

Nearest International Air Port: **Madras/Chennai Air**
Top two major sea ports: **Madras/Chennai Sea, jnpt**
Top two nearest major Air ports: **Madras Air, Bangalore air**
Nearest Arterial road: **Golden quadrilateral (E-S corridor)**

A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:

EMC at Satyavedu mandal to nearest arterial (E-S corridor): The distance between EMC at Satyavedu to nearest arterial (E-S corridor) is around 9 km.
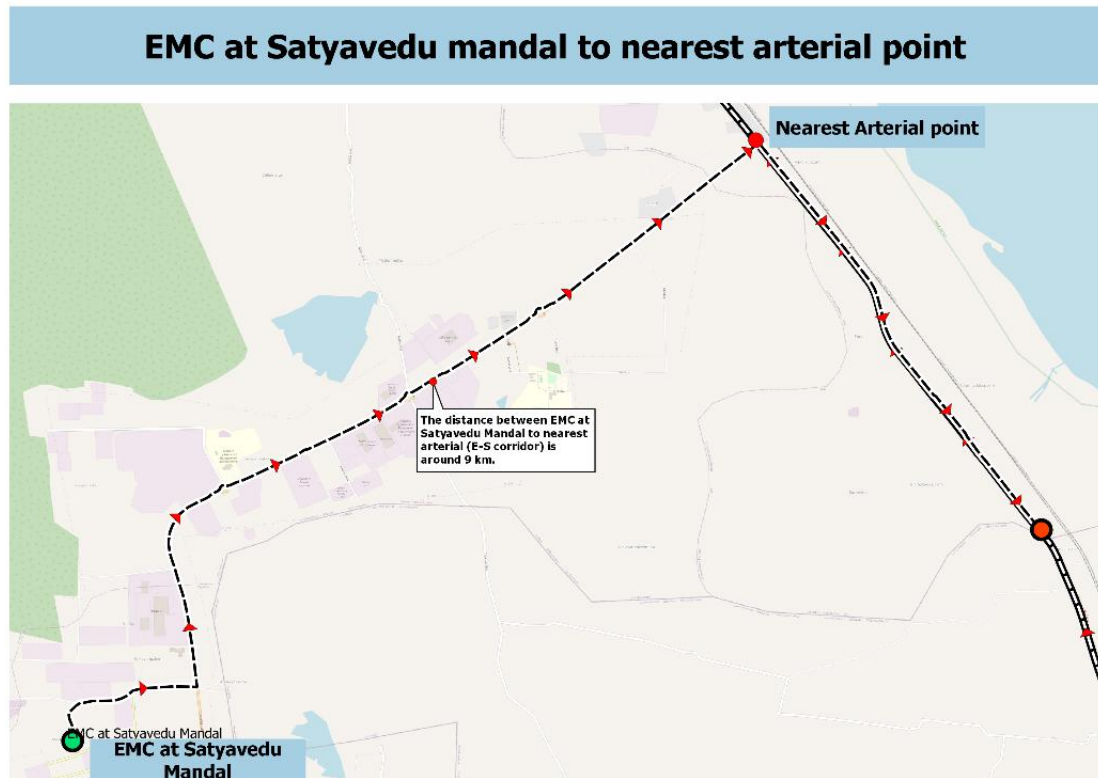
EMC at Satyavedu to Nearest international Seaport/Major Seaport 1 (Madras/Chennai Seaport): The distance between EMC at Satyavedu to Madras seaport is around 74 km.
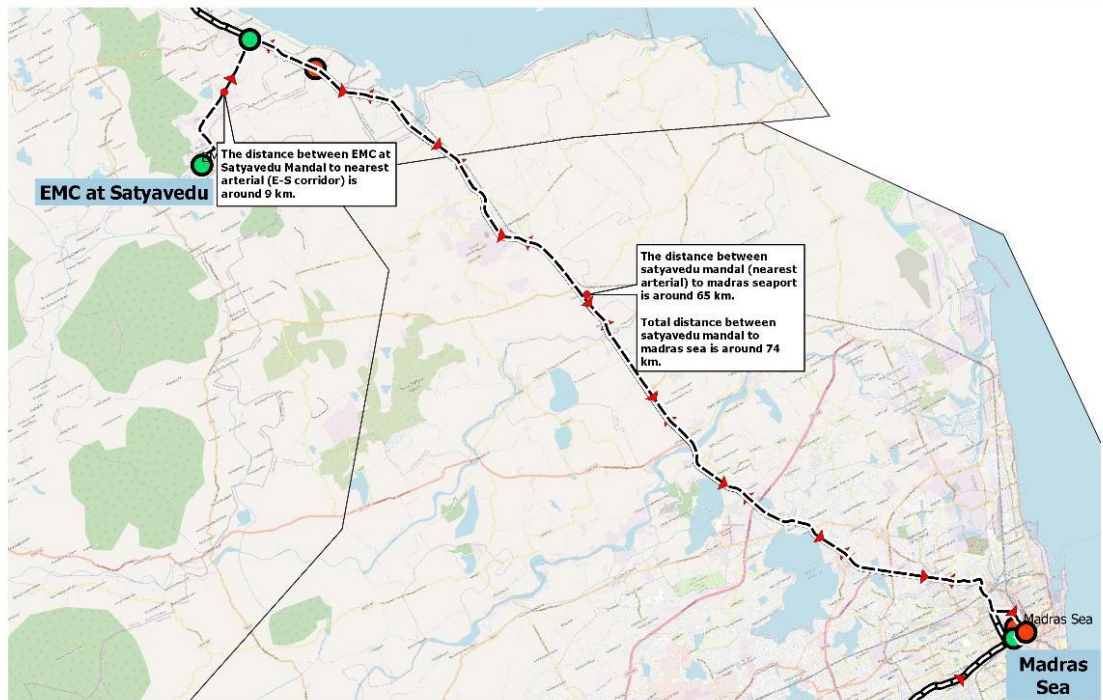
EMC at Satyavedu to Major Seaport 2 (JNPT Seaport): The distance between EMC at Satyavedu to JNPT seaport is around 1206 km.
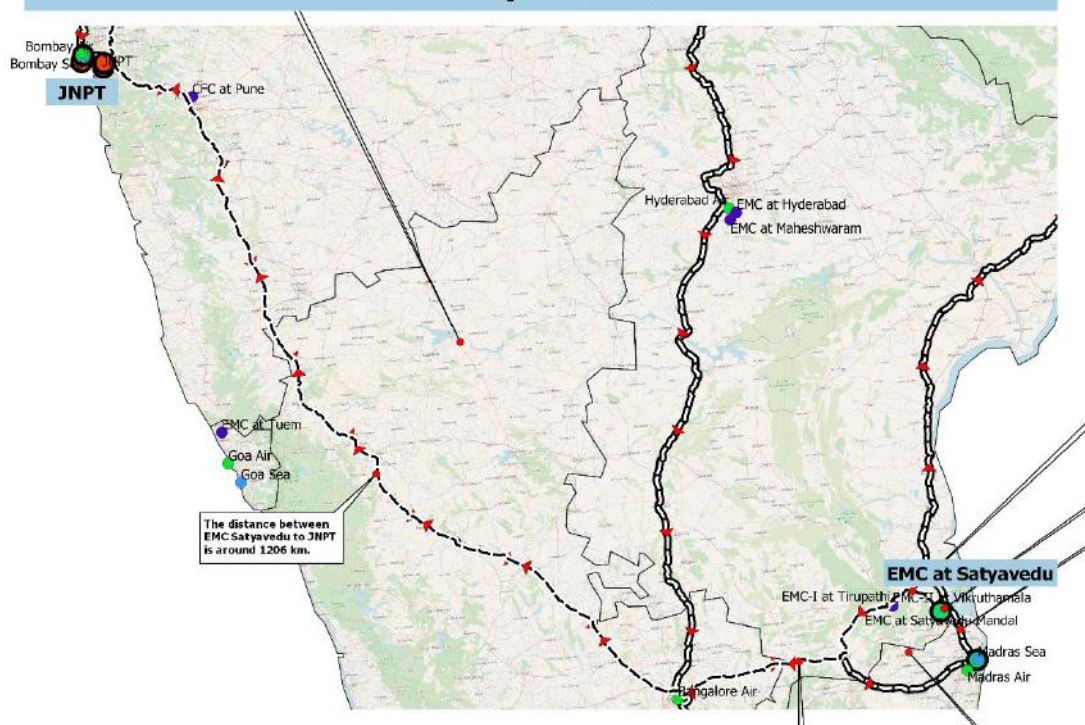

EMC at Satyavedu to Nearest international Airport/Major Airport 1 (Madras/Chennai airport): The distance between EMC at Satyavedu to Madras airport is around 88 km.

EMC at Satyavedu mandal to Madras Air
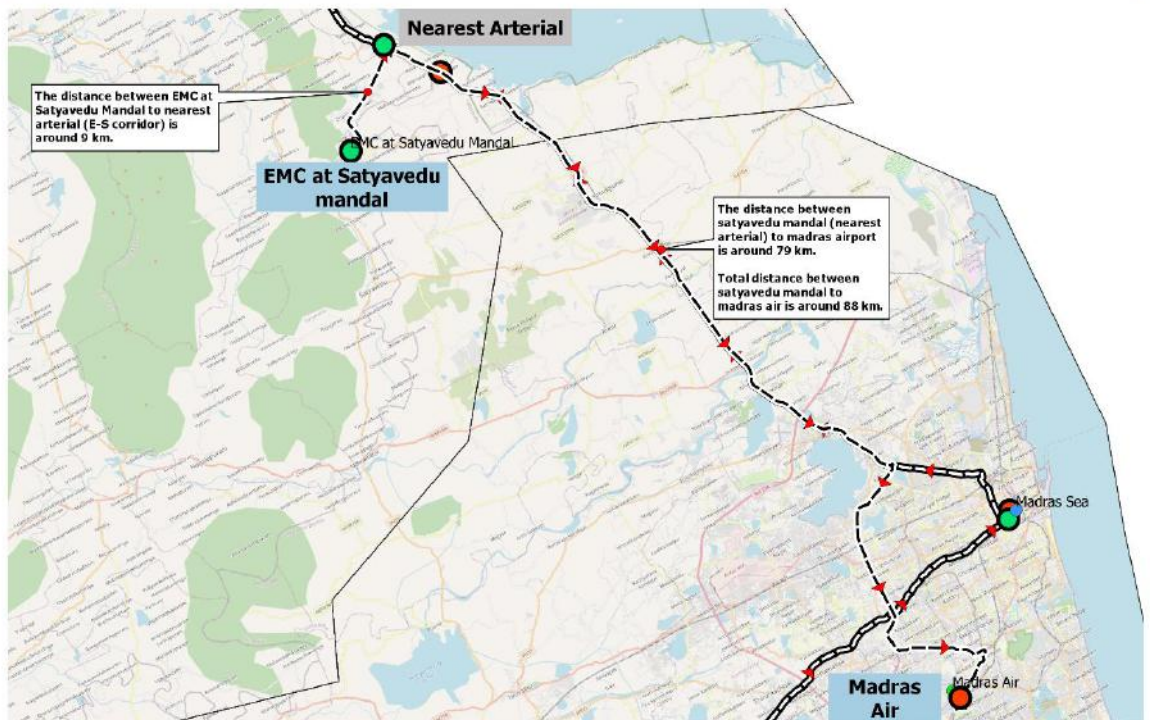
EMC at Satyavedu to Major Airport 2 (Bangalore airport): The distance between EMC at Satyavedu to bangalore airport is around 305 km.

EMC at satyavedu to bangalore airport
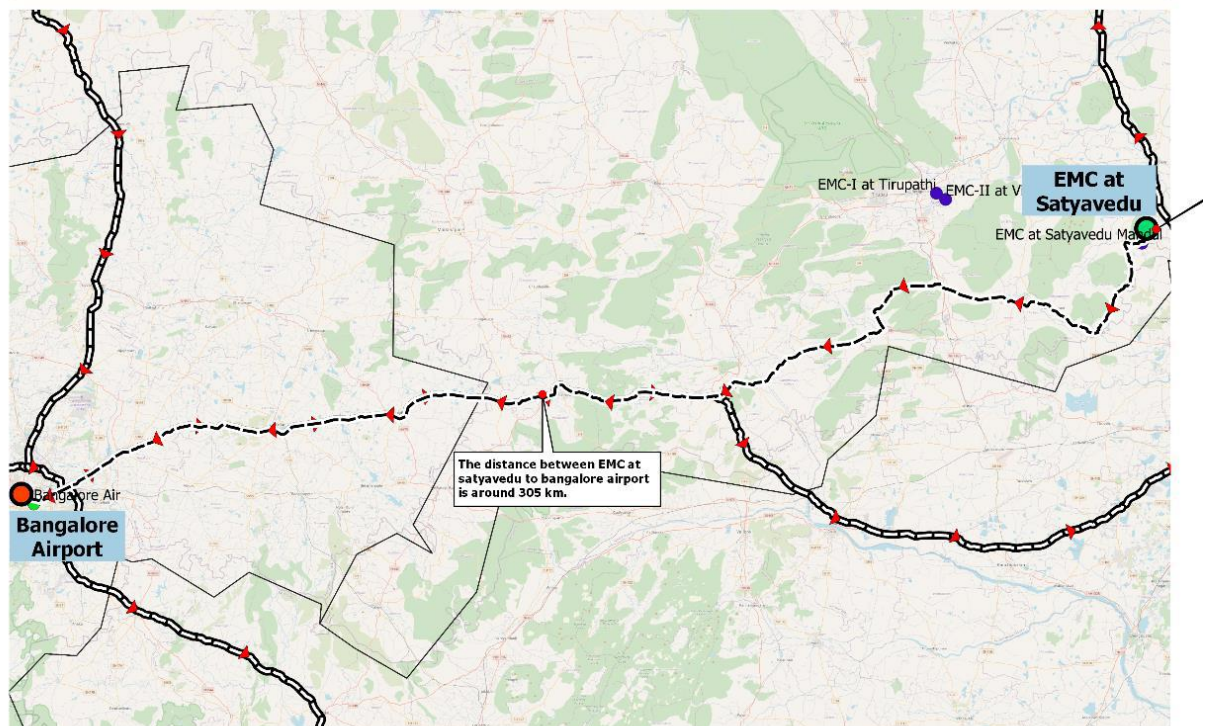
21) EMC-I at Tirupathi

Metrices of logistics connectivity to Import-Export ports:
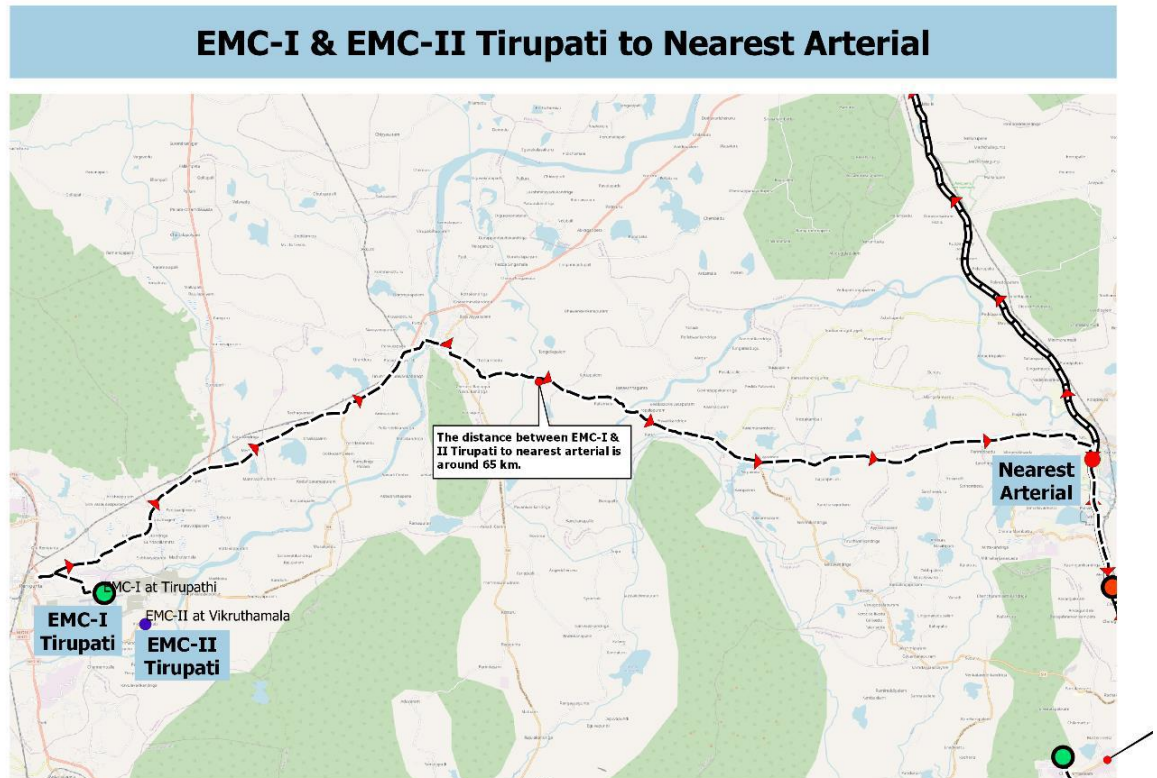Nearest International Air Port: **Madras/Chennai Air**
Top two major sea ports: **Madras/Chennai Sea, jnpt**
Top two nearest major Air ports: **Madras Air, Bangalore air**
Nearest Arterial road: **Golden quadrilateral (E-S corridor)**

A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:

EMC-I at Tirupathi to nearest arterial (E-S corridor): The distance between EMC-I at tirupathi to nearest arterial (E-S corridor) is around 65 km.
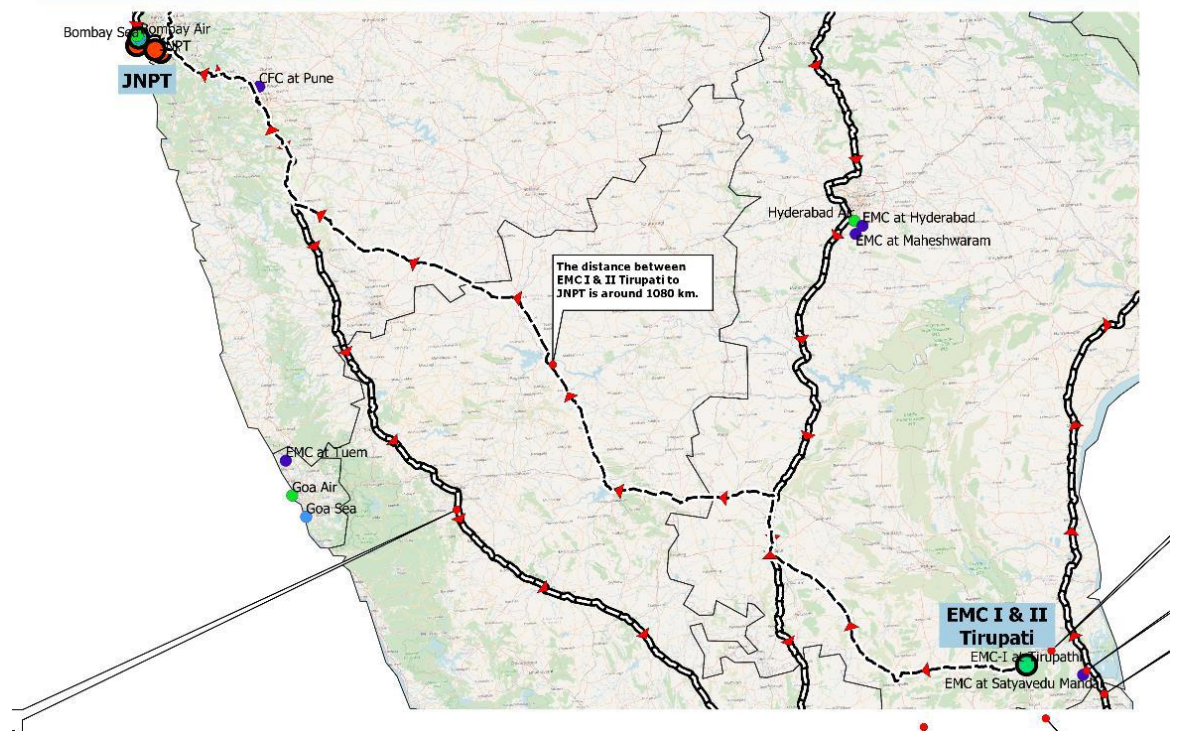

EMC-I at Tirupati to Nearest international Seaport/Major Seaport 1 (Madras/Chennai Seaport): The distance between EMC-I at Tirupati to Madras seaport is around 135 km.
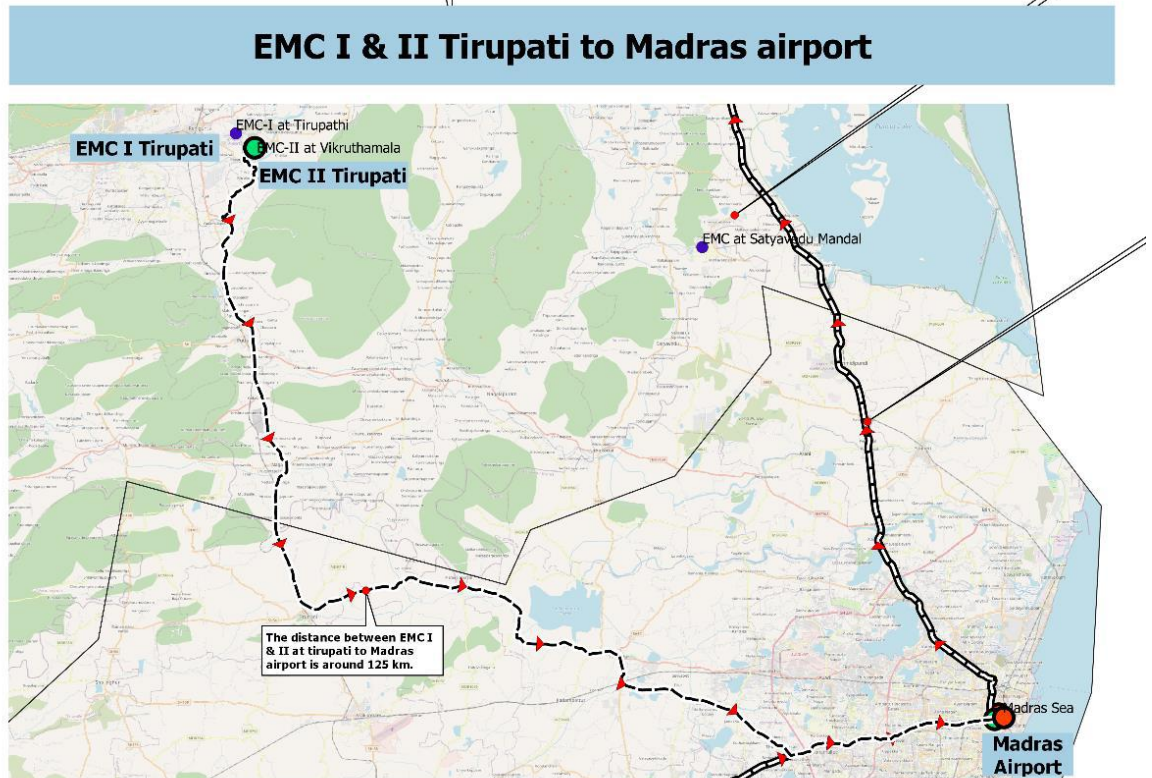
EMC I & II Tirupati to Madras seaport
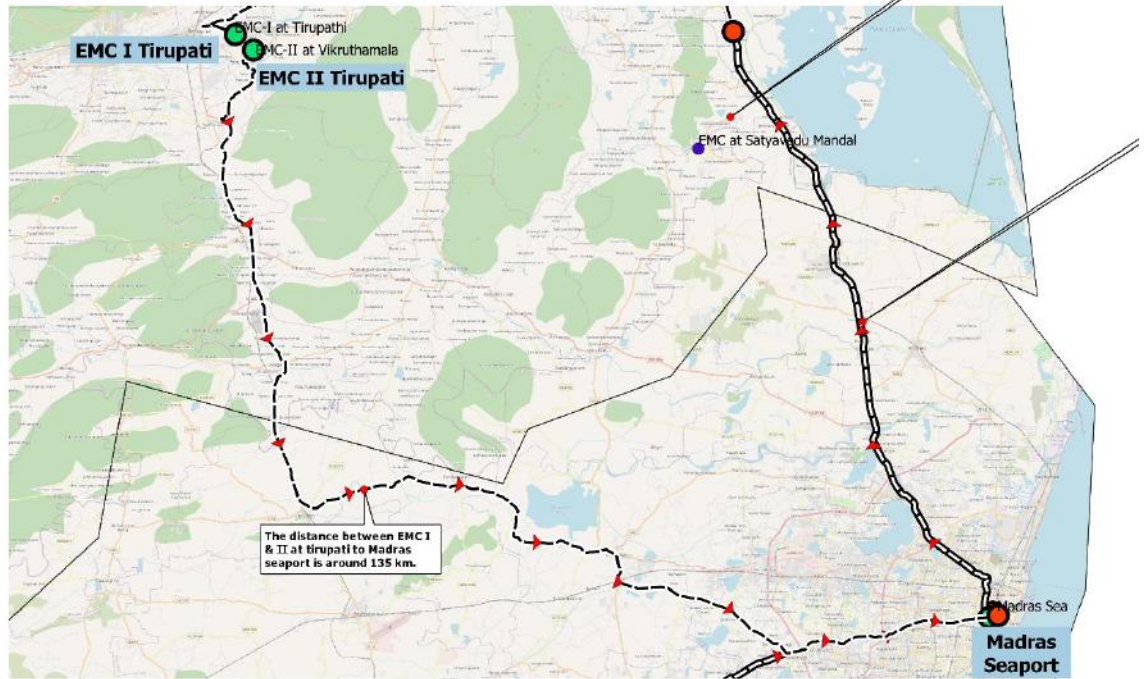
EMC-I at Tirupati to Major Seaport 2 (JNPT Seaport): The distance between EMC-I at tirupati to JNPT seaport is around 1080 km.
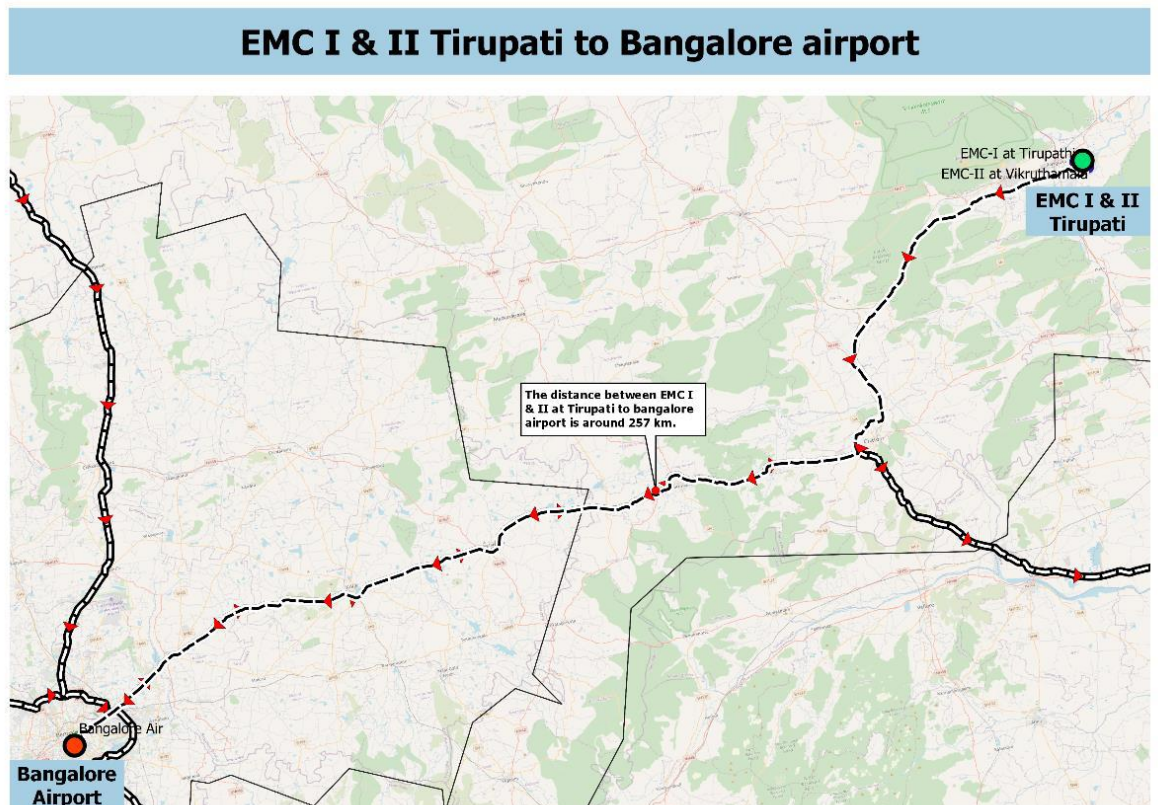

EMC I & II Tirupati to JNPT

EMC-I at tirupati to Nearest international Airport/Major Airport 1 (Madras/Chennai airport):
The distance between EMC-I at Tirupati to Madras airport is around 125 km.

EMC-I at Tirupati to Major Airport 2 (Bangalore airport): The distance between EMC-I at tirupati to bangalore airport is around 257 km.

22) EMC-II at Vikruthamala, Tirupathi

Metrices of logistics connectivity to Import-Export ports:

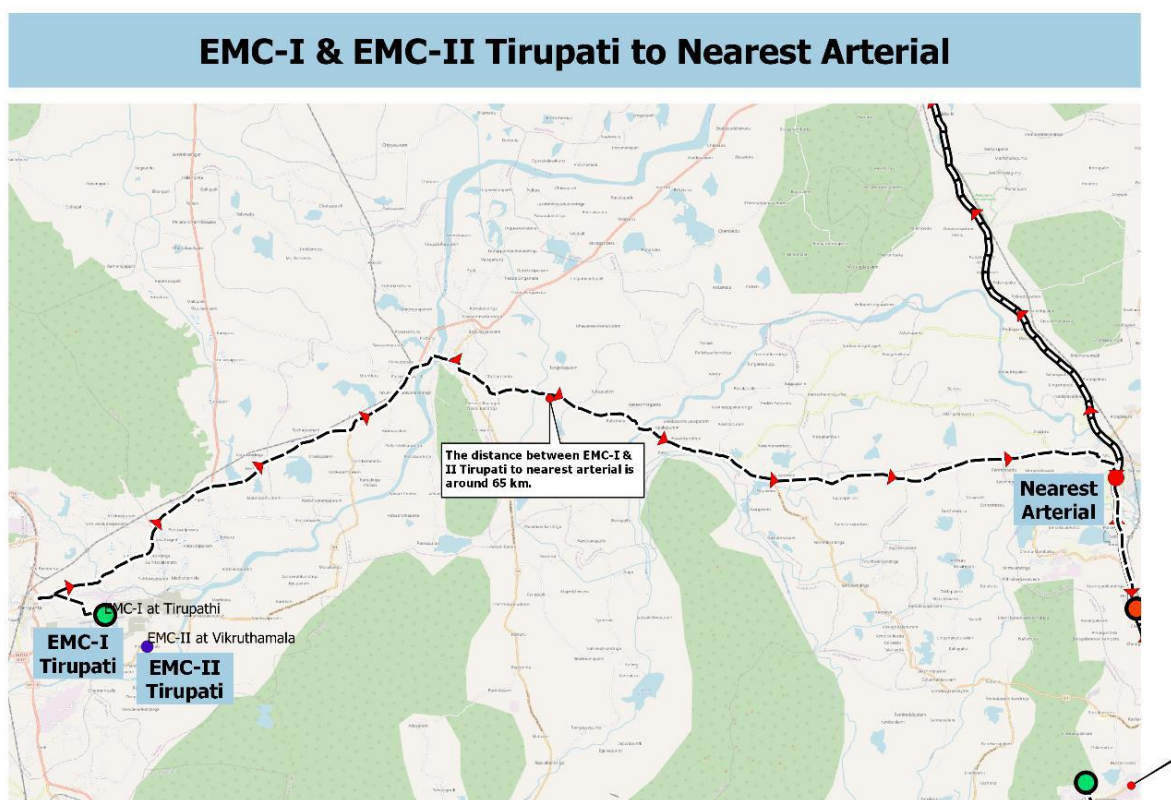Nearest International Air Port: **Madras/Chennai Air**
Top two major sea ports: **Madras/Chennai Sea, jnpt**
Top two nearest major Air ports: **Madras Air, Bangalore air**
Nearest Arterial road: **Golden quadrilateral (E-S corridor)**

A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:

EMC-II at Tirupathi to nearest arterial (E-S corridor): The distance between EMC-II at tirupathi to nearest arterial (E-S corridor) is around 65 km.

EMC-I & EMC-II Tirupati to Nearest Arterial

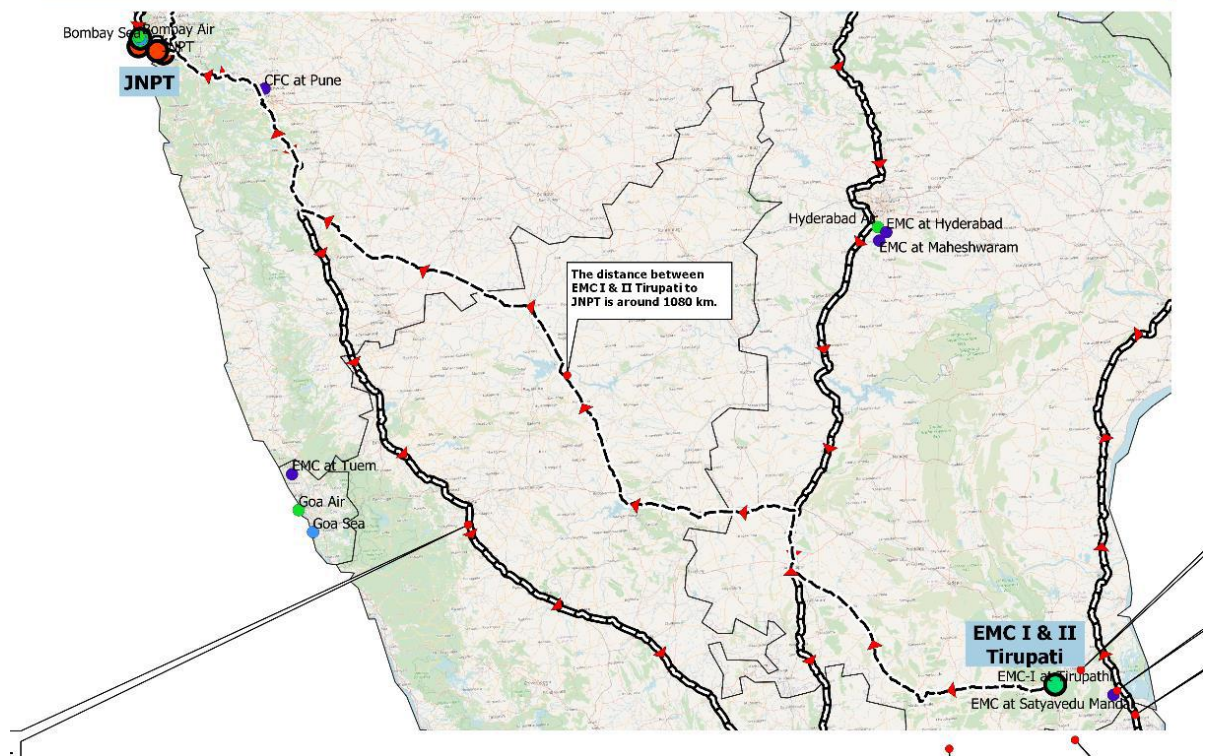The distance between EMC-I & II Tirupati to nearest arterial is around 65 km.

EMC-II at Tirupati to Nearest international Seaport/Major Seaport 1 (Madras/Chennai Seaport): The distance between EMC-II at Tirupati to Madras seaport is around 135 km.

EMC I & II Tirupati to Madras seaport

The distance between EMC I & II at tirupati to Madras seaport is around 135 km.

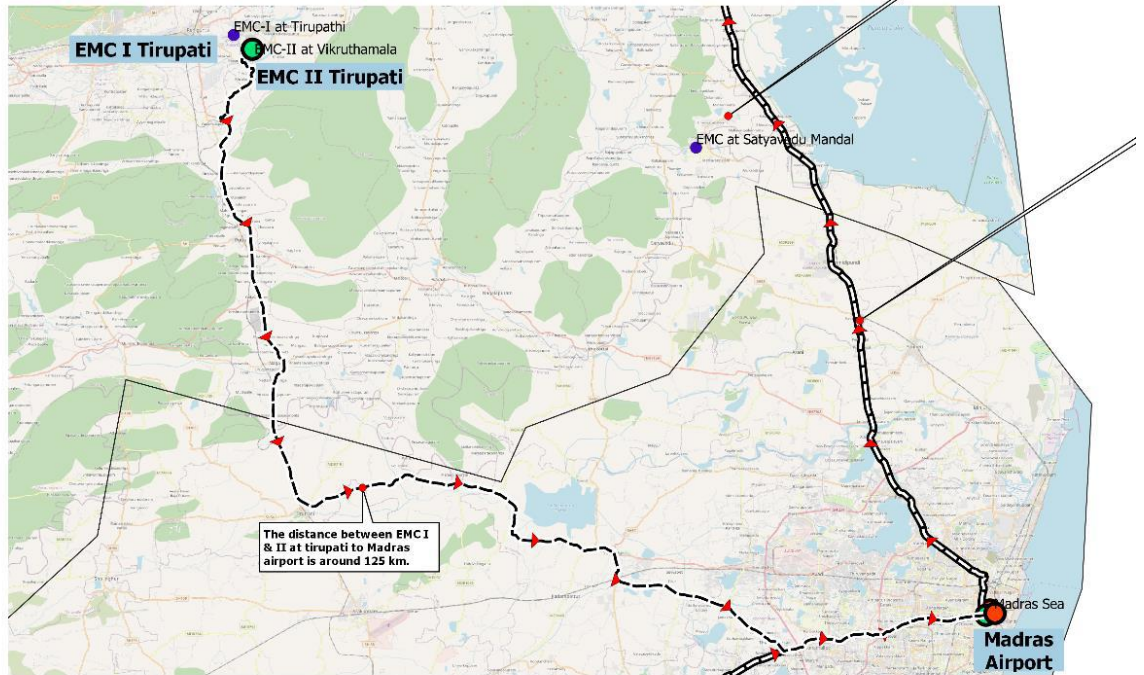**EMC-II at Tirupati to Major Seaport 2 (JNPT Seaport):** The distance between EMC-II at tirupati to JNPT seaport is around 1080 km.
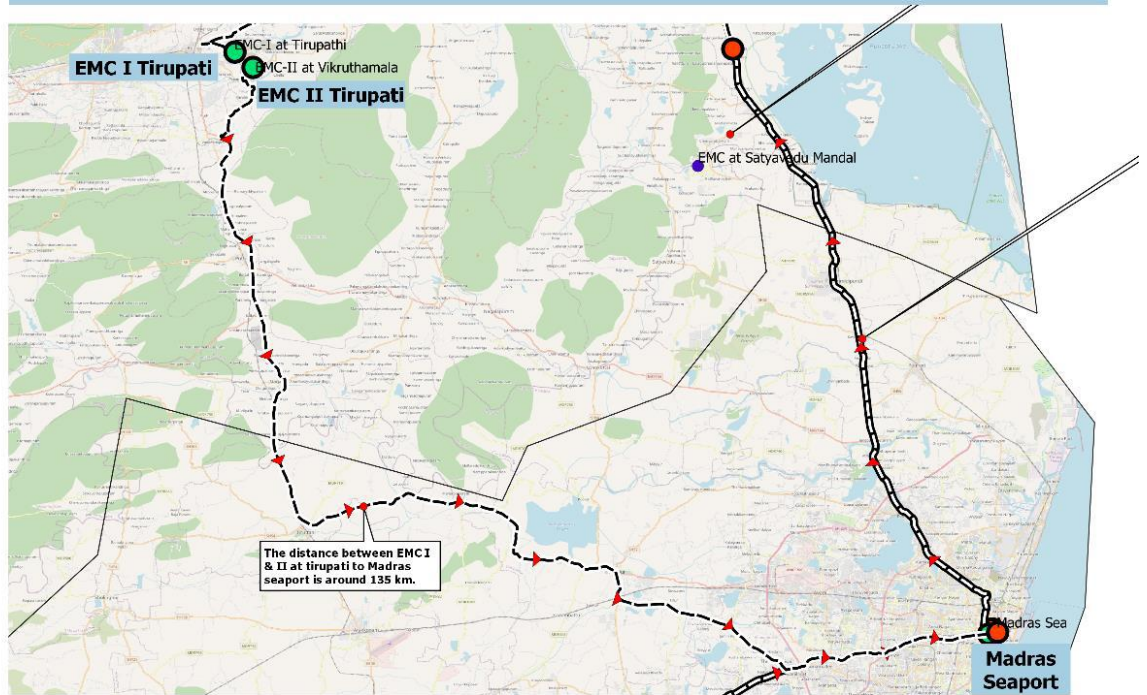
EMC I & II Tirupati to JNPT

The distance between EMC I & II Tirupati to JNPT is around 1080 km.

EMC-II at tirupati to Nearest international Airport/Major Airport 1 (Madras/Chennai airport): The distance between EMC-II at Tirupati to Madras airport is around 125 km.

EMC I & II Tirupati to Madras airport

The distance between EMC I & II at tirupati to Madras airport is around 125 km.

EMC-II at Tirupati to Major Airport 2 (Bangalore airport): The distance between EMC-II at tirupati to bangalore airport is around 257 km.

EMC I & II Tirupati to Bangalore airport

The distance between EMC I & II Tirupati to bangalore airport is around 257 km.
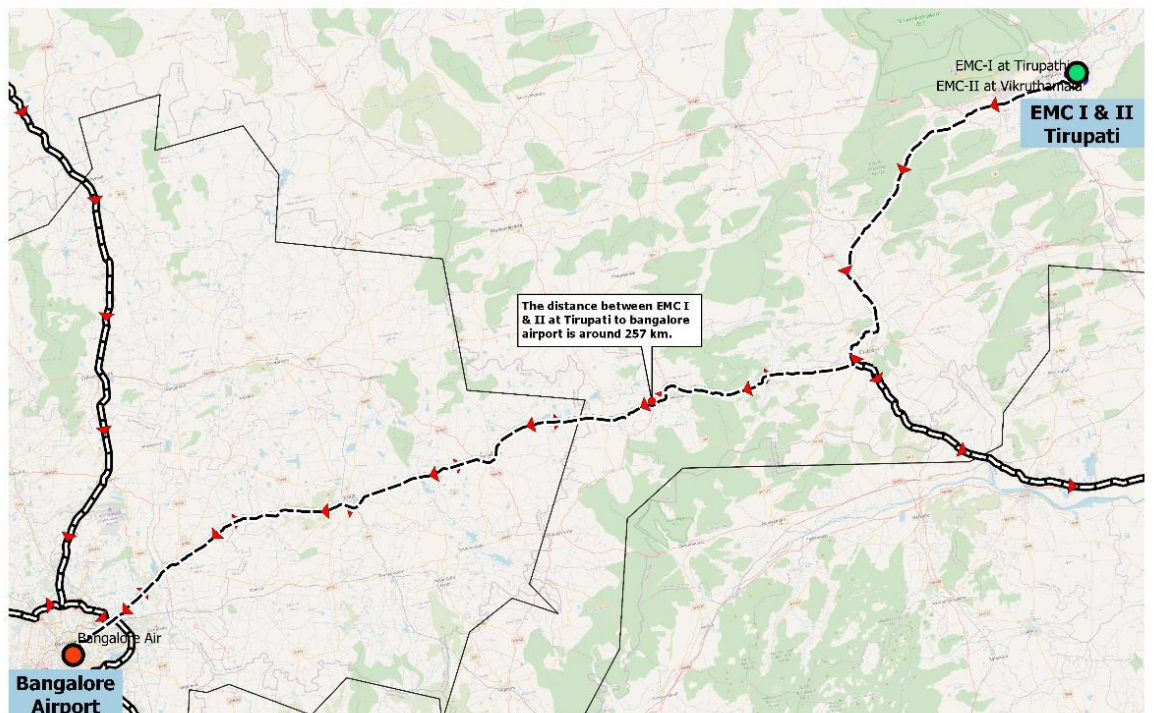
23) EMH at Ranjangaon MIDC, Pune

Metrices of logistics connectivity to Import-Export ports:

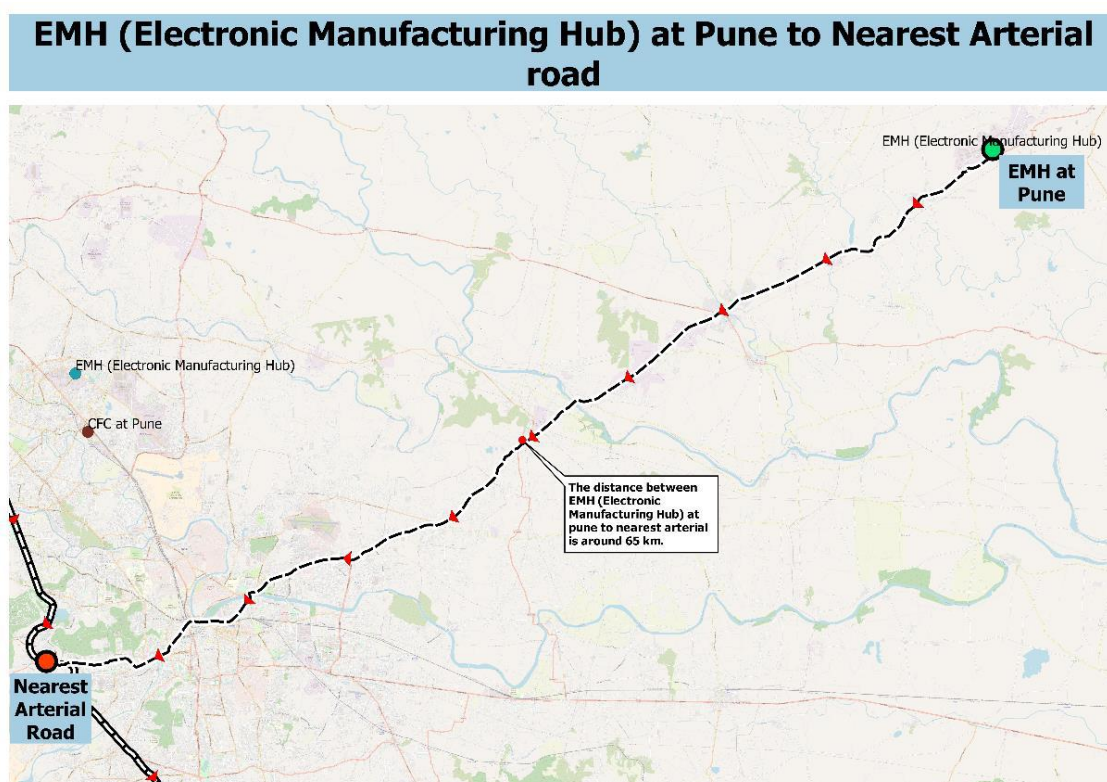Nearest International Air Port: **Mumbai**
Top two major sea ports: **JNPT, Madras seaport**
Top two nearest major Air ports: **Mumbai, Delhi Airport**
Nearest Arterial road: **Golden Quadrilateral (W-S corridor)**

A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:

EMH at Ranjangaon MIDC (Pune) to nearest arterial (W-S corridor): The distance between EMH at Ranjangaon MIDC (Pune) to nearest arterial (W-S corridor) is around 65 km.

EMH (Electronic Manufacturing Hub) at Pune to Nearest Arterial road

EMH at Ranjangaon MIDC (Pune) to Nearest international Airport/Major Airport 1 (Bombay Airport): The distance between EMH at Ranjangaon MIDC (Pune) nearest arterial to Bombay Airport is around 102 km. (nearby JNPT seaport)

EMH at Ranjangaon MIDC (Pune) to Major Airport 2 (Delhi Airport): The distance between EMH at Ranjangaon MIDC (Pune) nearest arterial to Delhi Airport is around 1331 km.

EMH at Ranjangaon MIDC (Pune) to Nearest international Seaport/ Major Seaport (JNPT): The distance between EMH at Ranjangaon MIDC (Pune) nearest arterial to JNPT is around 102 km.

EMH at Ranjangaon MIDC (Pune) to Major Seaport 2 (Chennai/Madras Seaport): The distance between EMH at Ranjangaon MIDC (Pune) nearest arterial to Chennai/Madras seaport is around 1151 km.

24) EMH at Chinchwad, Pune

Metrices of logistics connectivity to Import-Export ports:
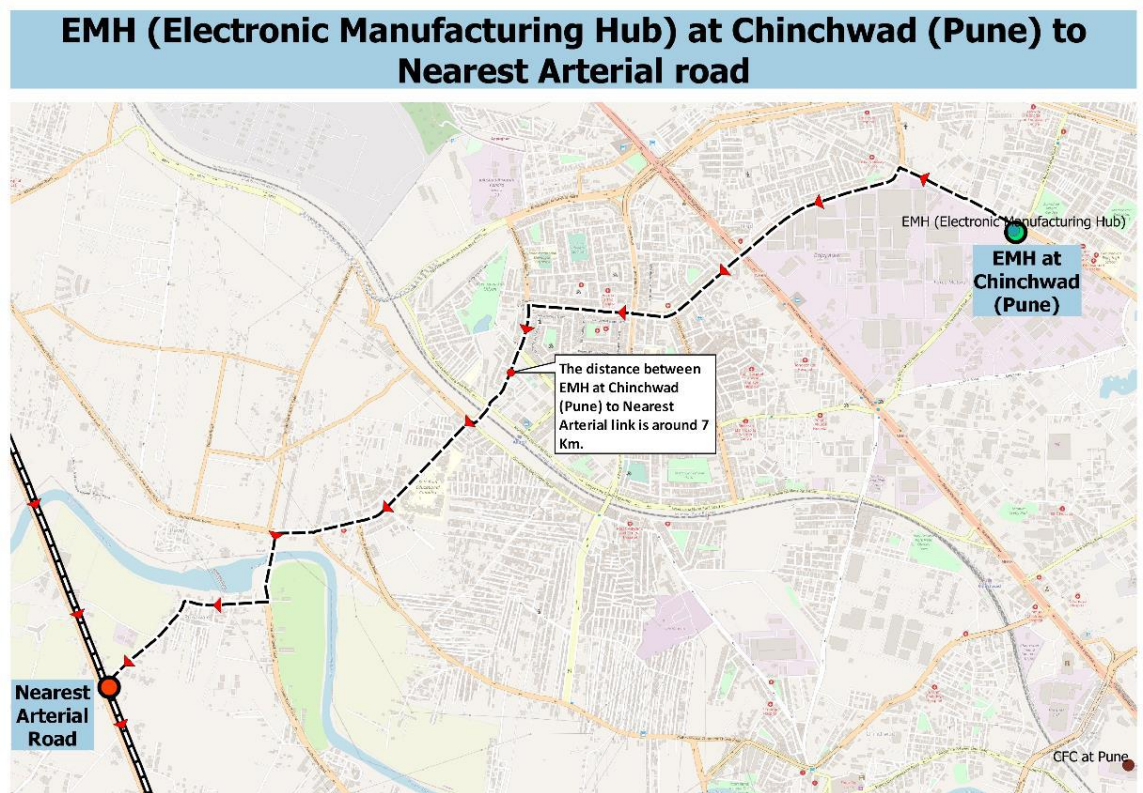
Nearest International Air Port: **Mumbai**
Top two major sea ports: **JNPT, Madras seaport**
Top two nearest major Air ports: **Bombay, Delhi Airport**
Nearest Arterial road: **Golden Quadrilateral (W-S corridor)**

A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:

EMH at Chinchwad (Pune) to nearest arterial (W-S corridor): The distance between EMH at Chinchwad (Pune) to nearest arterial (W-S corridor) is around 7 km.

EMH (Electronic Manufacturing Hub) at Chinchwad (Pune) to Nearest Arterial road

EMH at Chinchwad (Pune) to Nearest international Airport/Major Airport 1 (Bombay Airport): The distance between EMH at Chinchwad (Pune) nearest arterial to Bombay Airport is around 102 km. (nearby JNPT seaport)

EMH at Chinchwad (Pune) to Major Airport 2 (Delhi Airport): The distance between EMH at Chinchwad (Pune) nearest arterial to Delhi Airport is around 1331 km.

EMH at Chinchwad (Pune) to Nearest international Seaport/ Major Seaport (JNPT): The distance between EMH at Chinchwad (Pune) nearest arterial to JNPT is around 102 km.

EMH at Chinchwad (Pune) to Major Seaport 2 (Chennai/Madras Seaport): The distance between EMH at Chinchwad (Pune) to Chennai/Madras seaport is around 1151 km.
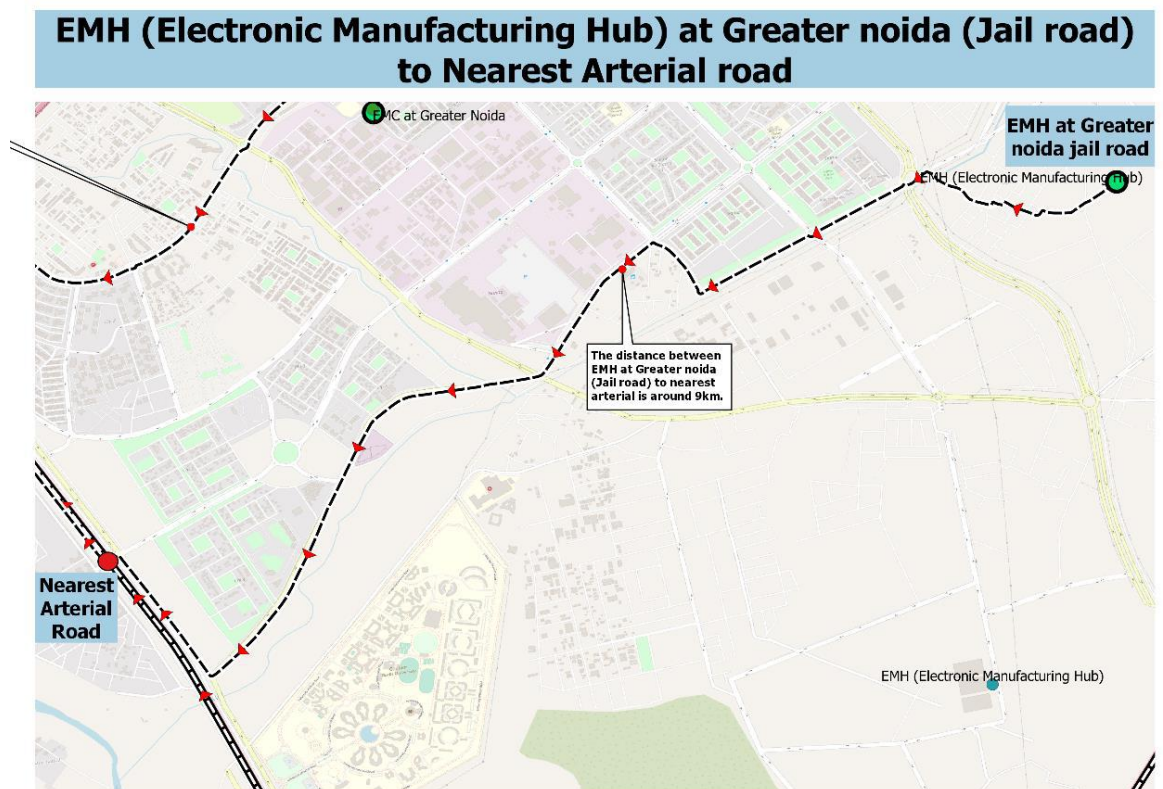
25) EMH at Greater Noida near jail road, Uttar Pradesh

Metrices of logistics connectivity to Import-Export ports:

Nearest International Air Port: **Delhi airport**
Top two major sea ports: **JNPT, Madras seaport**
Top two nearest major Air ports: **Bombay, Delhi Airport**
Nearest Arterial road: **Golden Quadrilateral**

A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:

EMH at Greater Noida (jail road) to nearest arterial: The distance between EMH at greater noida (Jail road) to nearest arterial (Yamuna expressway) is around 9 km.

EMH (Electronic Manufacturing Hub) at Greater noida (Jail road) to Nearest Arterial road

EMH at Greater Noida (jail road) to Nearest international Airport/Major Airport 1 (Delhi Airport): The nearest airport is "Delhi Airport" and the distance from EMH at Greater Noida (nearest arterial) to "Delhi Airport" is around 34 km.

EMH at Greater Noida (jail road) to Nearest international Airport/Major Airport 2 (Bombay Airport): The second nearest major port is "Bombay Airport" and the distance from EMH at Greater Noida (jail road) to "Bombay airport" is around 1360 km via.

EMH at Greater Noida (jail road) to Nearest international Seaport/Major Seaport 1 (JNPT): The nearest Major Sea port to EMH at Greater Noida (jail road) is JNPT. The distance between EMH at Greater Noida (jail road) and Nhava sheva port (close to both JNPT and Bombay sea) is around 1390 km.

EMH at Greater Noida (jail road) to Nearest international Seaport/Major Seaport 2 (Madras Seaport): The second Major Sea port to EMH at Greater Noida (jail road) is Madras seaport. The distance between EMH at Greater Noida (jail road) and Madras seaport is around 2020 km.

26) EMH at Ecotech-1, Greater Noida, Uttar Pradesh

Metrices of logistics connectivity to Import-Export ports:
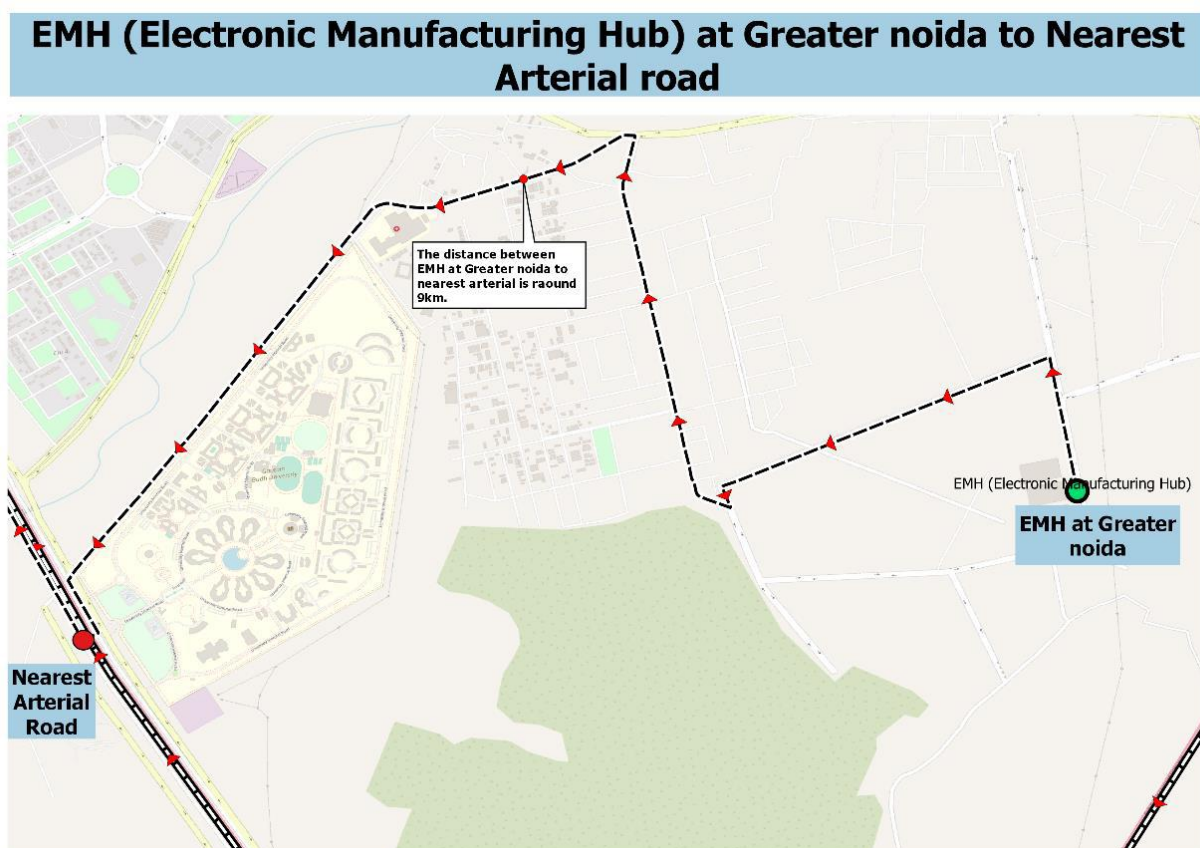
Nearest International Air Port: **Delhi Airport**
Top two major sea ports: **JNPT, Madras seaport**
Top two nearest major Air ports: **Bombay, Delhi Airport**
Nearest Arterial road: **Golden Quadrilateral**

A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:

EMH at Ecotech-1 (Greater Noida) to nearest arterial: The distance between EMH at Ecotech-1 (Greater Noida) to nearest arterial (Yamuna expressway) is around 9 km.

EMH (Electronic Manufacturing Hub) at Greater noida to Nearest Arterial road

EMH at Ecotech-1 (Greater Noida) to Nearest international Airport/Major Airport 1 (Delhi Airport): The nearest airport is "Delhi Airport" and the distance from EMH at Ecotech-1 (Greater Noida) (nearest arterial) to "Delhi Airport" is around 34 km.

EMH at Ecotech-1 (Greater Noida) to Nearest international Airport/Major Airport 2 (Bombay Airport): The second nearest major port is "Bombay Airport" and the distance from EMH at Ecotech-1 (Greater Noida) to "Bombay airport" is around 1360 km.

EMH at Ecotech-1 (Greater Noida) to Nearest international Seaport/Major Seaport 1 (JNPT): The nearest Major Sea port to EMH at Ecotech-1 (Greater Noida) is JNPT. The distance between EMH at Ecotech-1 (Greater Noida) and Nhava sheva port (close to both JNPT and Bombay sea) is around 1390 km.

EMH at Ecotech-1 (Greater Noida) to Nearest international Seaport/Major Seaport 2 (Madras Seaport): The second Major Seaport to EMH at Ecotech-1 (Greater Noida) is Madras seaport. The distance between EMH at Ecotech-1 (Greater Noida) and Madras seaport is around 2020 km.
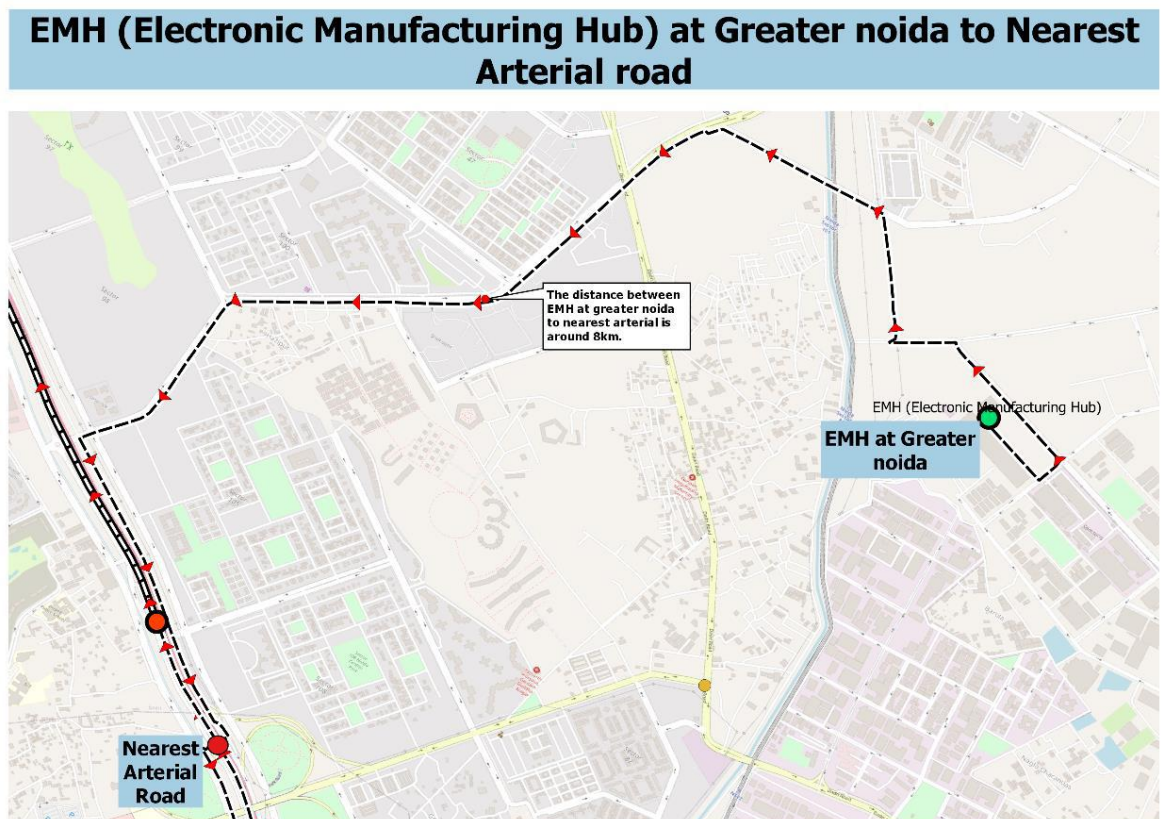
27) EMH at Greater Noida

Metrices of logistics connectivity to Import-Export ports:

Nearest International Air Port: **Delhi Airport**
Top two major sea ports: **JNPT, Madras seaport**
Top two nearest major Air ports: **Bombay, Delhi Airport**
Nearest Arterial road: **Golden Quadrilateral**

A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:

EMH at Greater Noida to nearest arterial: The distance between EMH at Greater Noida to nearest arterial (Yamuna expressway) is around 8 km.

EMH (Electronic Manufacturing Hub) at Greater noida to Nearest Arterial road

EMH at Greater Noida to Nearest international Airport/Major Airport 1 (Delhi Airport): The nearest airport is "Delhi Airport" and the distance from EMH at Greater Noida (nearest arterial) to "Delhi Airport" is around 20 km. 15km

EMH at Greater Noida to Nearest international Airport/Major Airport 2 (Bombay Airport): The second nearest major port is "Bombay Airport" and the distance from EMH at Greater Noida to "Bombay airport" is around 1375 km.

EMH at Greater Noida to Nearest international Seaport/Major Seaport 1 (JNPT): The nearest Major Sea port to EMH at Greater Noida is JNPT. The distance between EMH at Greater Noida and Nhava sheva port (close to both JNPT and Bombay sea) is around 1405 km.

EMH at Greater Noida to Nearest international Seaport/Major Seaport 2 Madras Seaport: The second Major Sea port to EMH at Greater Noida is Madras seaport. The distance between EMH at Greater Noida and Madras seaport is around 2035 km.

28) **EMH at Sriperambathur (Tamil nadu)**

Metrices of logistics connectivity to Import-Export ports:

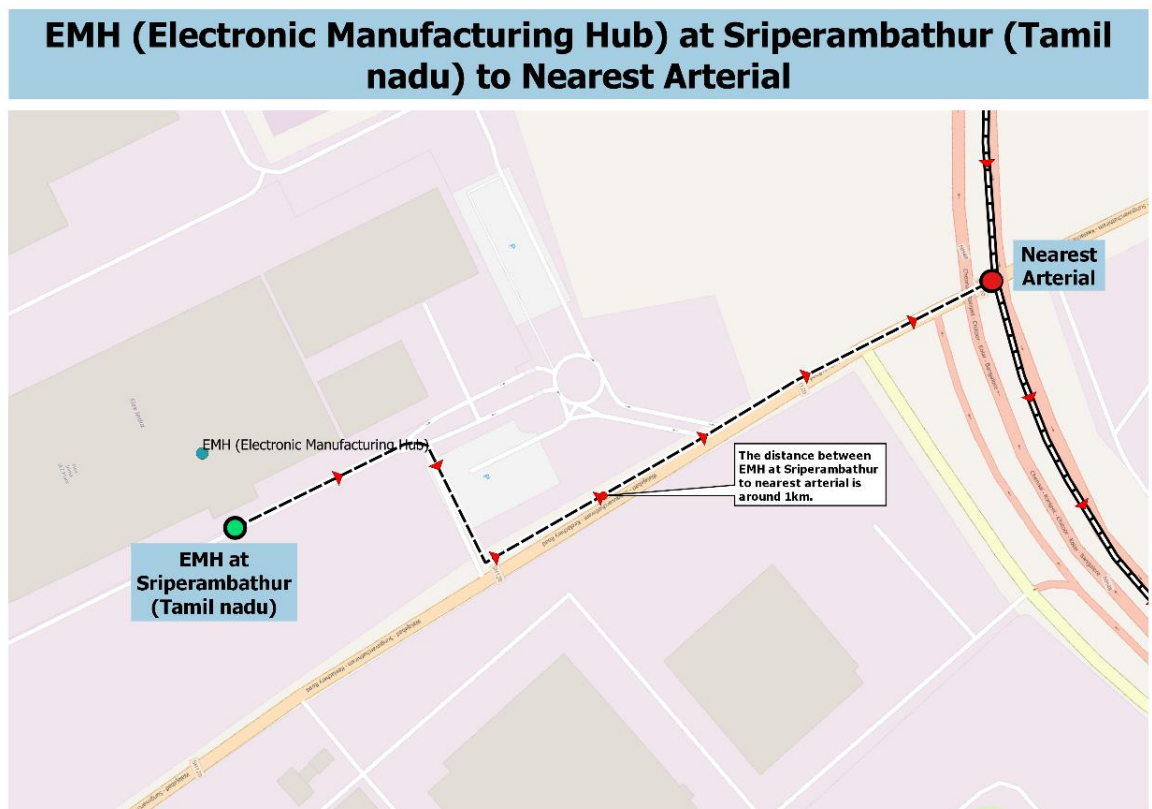Nearest International Air Port: **Madras/Chennai Air**
Top two major sea ports: **Madras/Chennai Sea, jnpt**
Top two nearest major Air ports: **Madras Air, Bangalore air**
Nearest Arterial road: **Golden quadrilateral (W-S corridor)**

A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:

EMH at Sriperambathur to nearest arterial (W-S corridor): The distance between EMH at Sriperambathur to nearest arterial (W-S corridor) is around 1 km.

EMH (Electronic Manufacturing Hub) at Sriperambathur (Tamil nadu) to Nearest Arterial

EMH at Sriperambathur to Nearest international Airport/Major Airport 1 (Madras/Chennai airport): The distance between EMH at Sriperambathur (nearest arterial) to Madras airport is around 40 km.

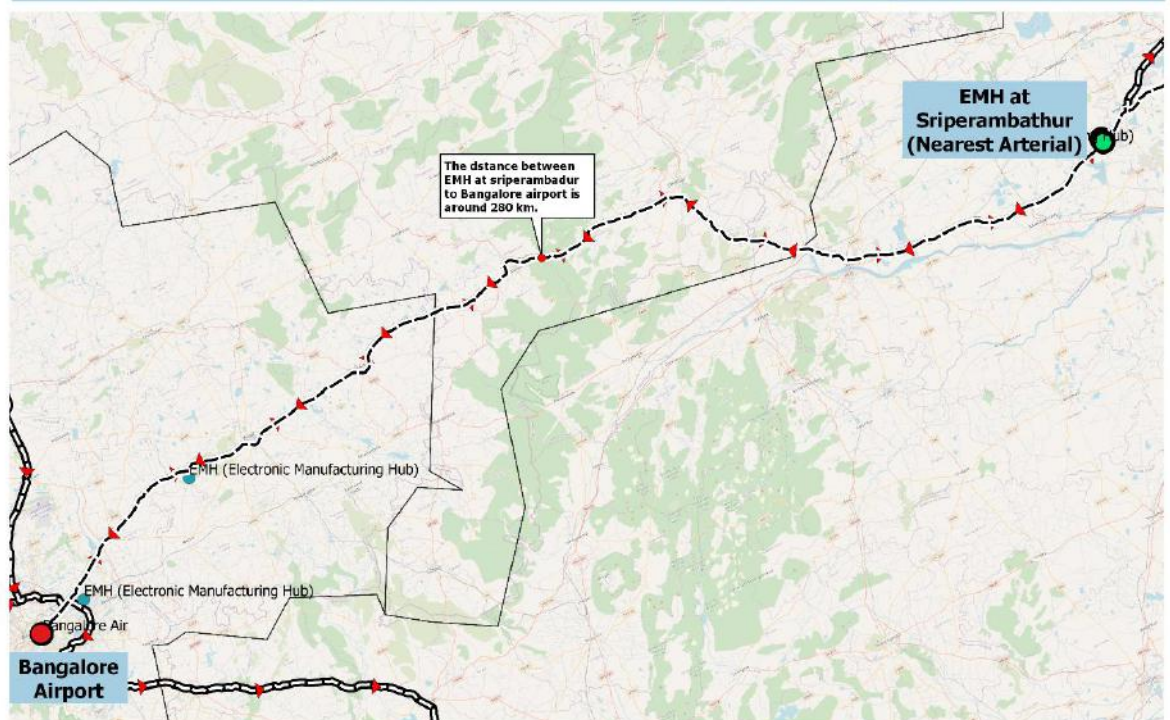## EMH (Electronic Manufacturing Hub) at Sriperambathur (Tamil nadu) Nearest Arterial to Madras Airport
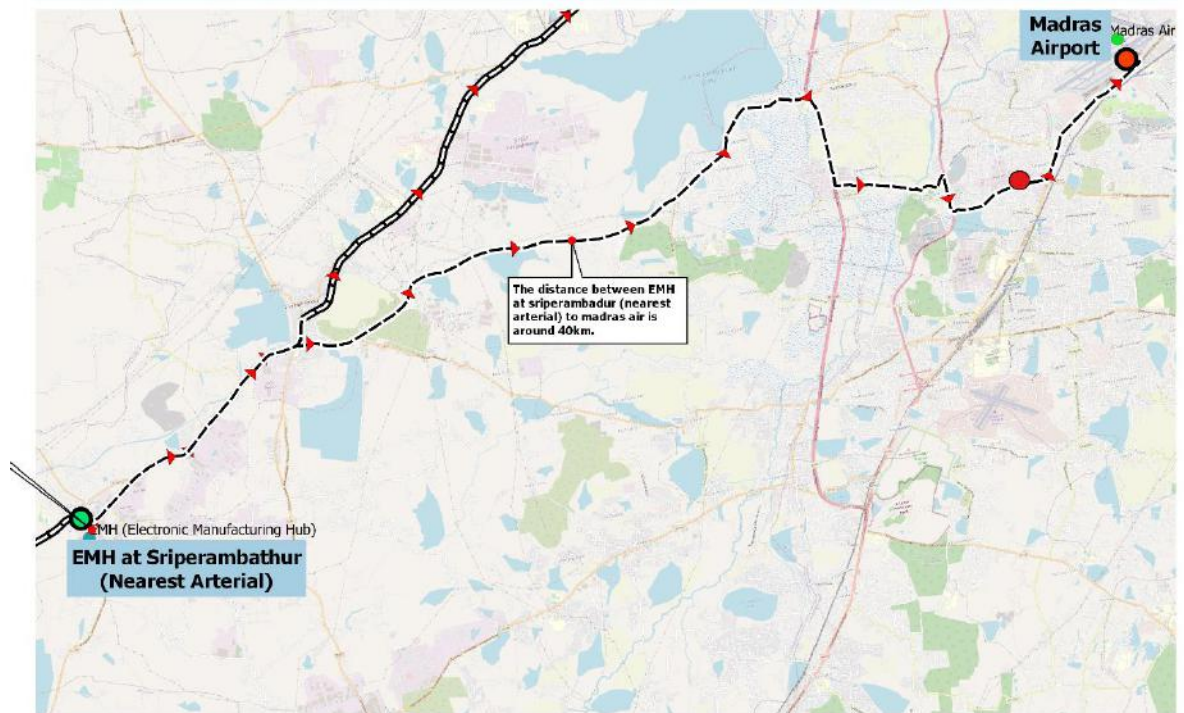
EMH at Sriperambathur to Major Airport 2 (Bangalore airport): The distance between EMH at Sriperambathur nearest arterial to bangalore airport is around 280 km.

EMH (Electronic Manufacturing Hub) at Sriperambathur (Tamil nadu) Nearest Arterial to Bangalore Airport

EMH at Sriperambathur to Nearest international Seaport/Major Seaport 1 (Madras/Chennai Seaport): The distance between EMH at Sriperambathur nearest arterial to Madras seaport is around 50 km.
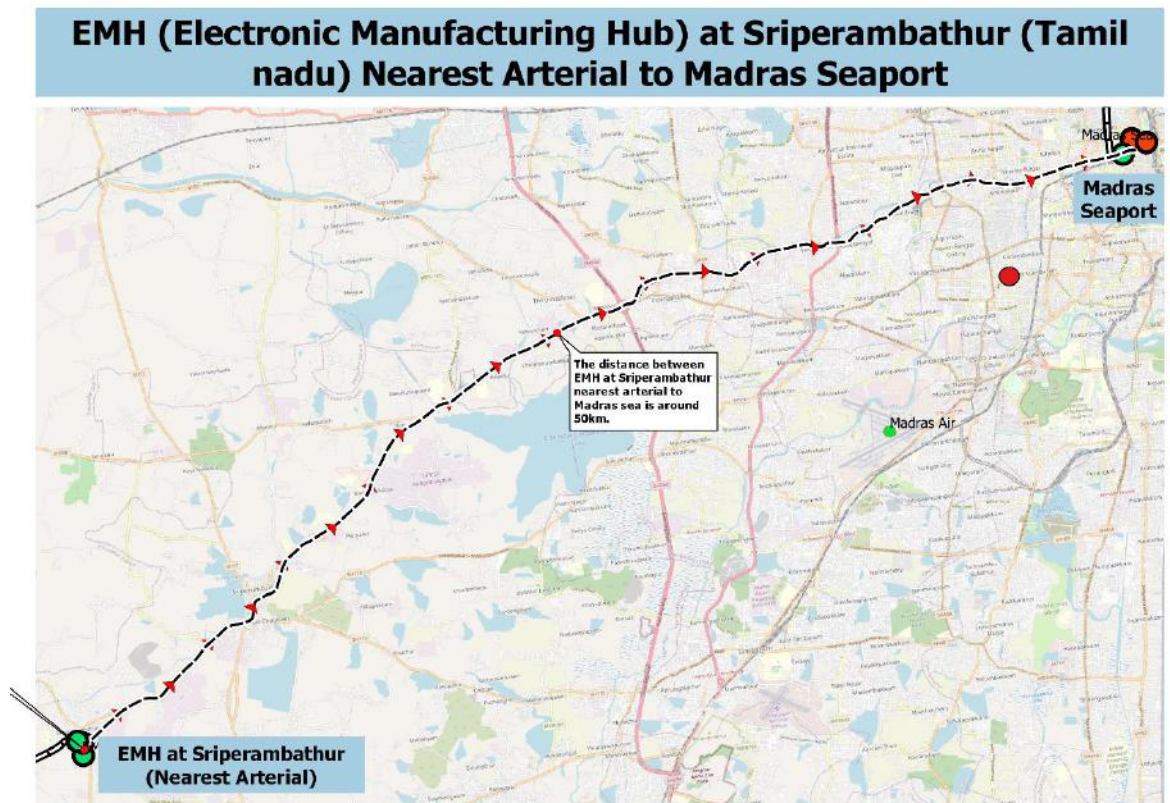

EMH at Sriperambathur to Major Seaport 2 (JNPT Seaport): The distance between EMH at Sriperambathur nearest arterial to JNPT seaport is around 1180 km.
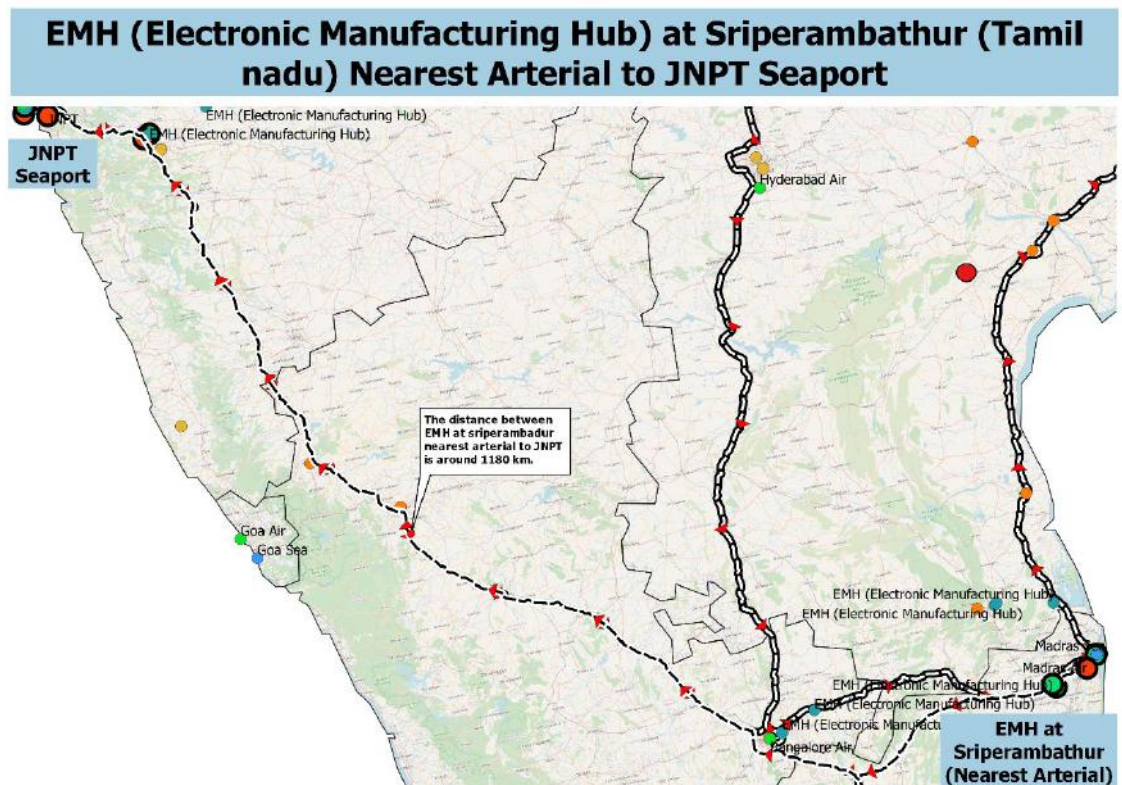
29) EMH at Sricity

Metrices of logistics connectivity to Import-Export ports:

Nearest International Air Port: **Madras/Chennai Air**
Top two major sea ports: **Madras/Chennai Sea, jnpt**
Top two nearest major Air ports: **Madras Air, Bangalore air**
Nearest Arterial road: **Golden quadrilateral (E-S corridor)**

A synopsis on the Efficacy of the Arterial links of the EMC to Import-Export Ports:

EMH at Sricity to nearest arterial (E-S corridor): The distance between EMH at Sricity to nearest arterial (E-S corridor) is around 5 km.
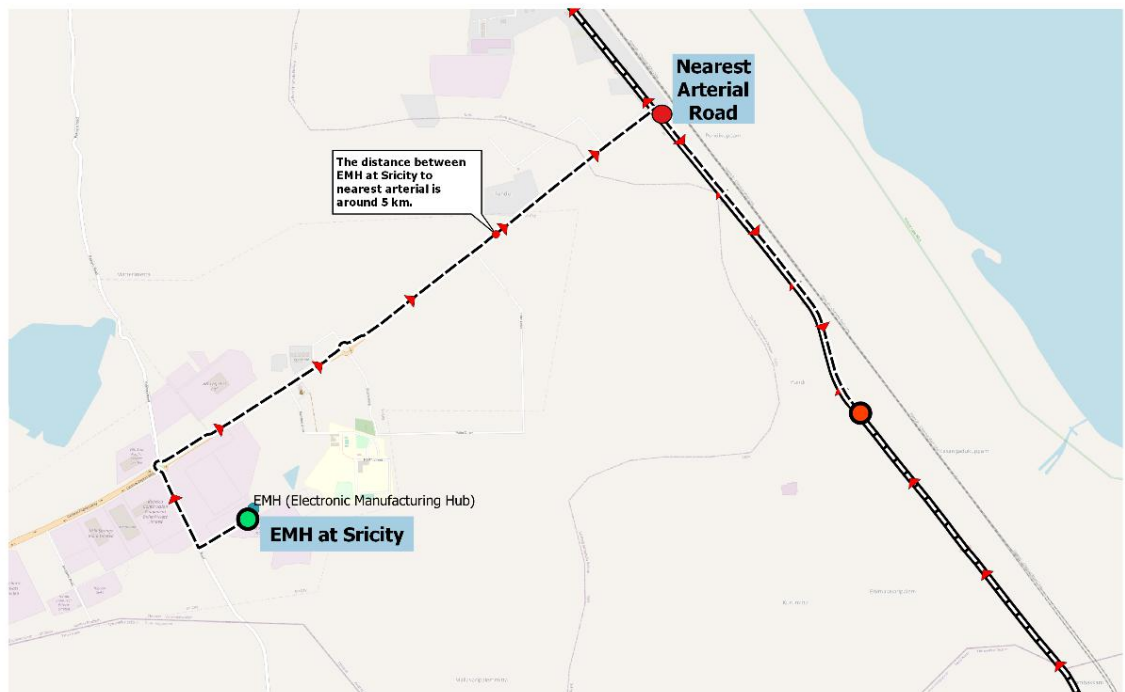
EMH at Sricity to Nearest international Airport/Major Airport 1 (Madras/Chennai airport): The distance between EMH at Sricity to Madras airport is around 92 km.

EMH at Sricity to Major Airport 2 (Bangalore airport): The distance between EMH at Sricity to bangalore airport is around 309 km.

EMH at Sricity to Nearest international Seaport/Major Seaport 1 (Madras/Chennai Seaport): The distance between EMH at Sricity to Madras seaport is around 70 km.

EMH at Sricity to Major Seaport 2 (JNPT Seaport): The distance between EMH at Sricity to JNPT seaport is around 1210 km.

30) EMH (I & II) at Tirupathi

Metrices of logistics connectivity to Import-Export ports:

Nearest International Air Port: **Madras/Chennai Air**
Top two major sea ports: **Madras/Chennai Sea, jnpt**
Top two nearest major Air ports: **Madras Air, Bangalore air**
Nearest Arterial road: **Golden quadrilateral (E-S corridor)**

A synopsis on the Efficacy of the Arterial links of the EMH to Import-Export Ports:

EMH (I & II) at Tirupathi to nearest arterial (E-S corridor): The distance between EMH (I & II) at Tirupathi to nearest arterial (E-S corridor) is around 65 km.

EMH (I & II) at Tirupathi to Nearest international Airport/Major Airport 1 (Madras/Chennai airport): The distance between EMH (I & II) at Tirupathi to Madras airport is around 125 km.

EMH (I & II) at Tirupathi to Major Airport 2 (Bangalore airport): The distance between EMH (I & II) at Tirupathi to bangalore airport is around 257 km.

EMH (I & II) at Tirupathi to Nearest international Seaport/Major Seaport 1 (Madras/Chennai Seaport): The distance between EMH (I & II) at Tirupathi to Madras seaport is around 135 km.

EMH (I & II) at Tirupathi to Major Seaport 2 (JNPT Seaport): The distance between EMH (I & II) at Tirupathi to JNPT seaport is around 1080 km.

31) EMH at Hoodi (bangalore)

Metrices of logistics connectivity to Import-Export ports:

Nearest International Air Port: **Bangalore air**
Top two major sea ports: **Madras/Chennai Sea, jnpt**
Top two nearest major Air ports: **Bangalore air, Madras Air**
Nearest Arterial road: **Golden quadrilateral/N-S corridor**

A synopsis on the Efficacy of the Arterial links of the EMH to Import-Export Ports:

EMH at Hoodi (bangalore) to nearest arterial (E-S corridor): The distance between EMH at Hoodi (bangalore) to nearest arterial is around 5 km.

EMH (Electronic Manufacturing Hub) at Hoodi (bangalore) to Nearest Arterial road

The distance between EMH at hoodi(bangalore) to nearest arterial is around 5km.
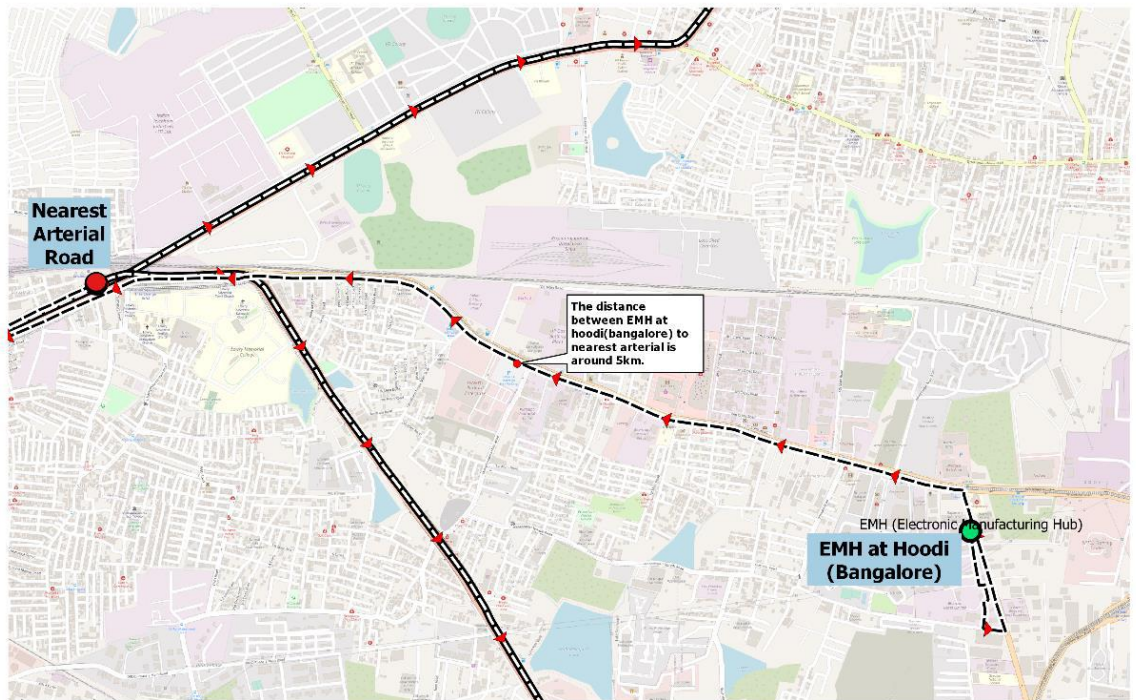
EMH at Hoodi (bangalore) to Major Airport 1 (Bangalore airport): The distance between EMH at Hoodi (bangalore) nearest arterial to bangalore airport is around 10 km.

EMH (Electronic Manufacturing Hub) at Hoodi (bangalore) Nearest Arterial to Bangalore Airport

The distance between EMH at hoodi (bangalore) nearest arterial to bangalore airport is around 10 km.

112
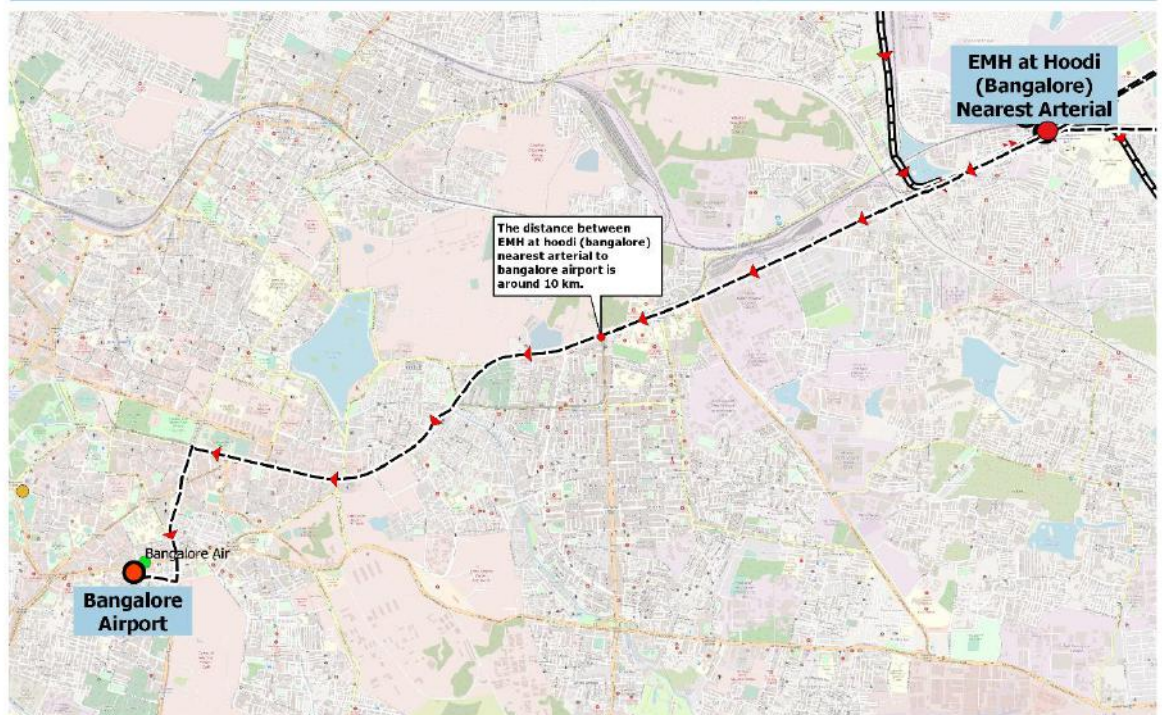
EMH at Hoodi (bangalore) to Nearest international Airport/Major Airport 2 (Madras/Chennai airport): The distance between EMH at Hoodi (bangalore) nearest arterial to Madras airport is around 310 km.

EMH at Hoodi (bangalore) nearest arterial to Nearest international Seaport/Major Seaport 1 (Madras/Chennai Seaport): The distance between EMH at Hoodi (bangalore) nearest arterial to Madras seaport is around 315km.

EMH (Electronic Manufacturing Hub) at Hoodi (bangalore) Nearest Arterial to Madras/Chennai Seaport

EMH at Hoodi (bangalore) nearest arterial to Major Seaport 2 (JNPT Seaport): The distance between EMH at Hoodi (bangalore) nearest arterial to JNPT seaport is around 930 km.

EMH (Electronic Manufacturing Hub) at Hoodi (bangalore) Nearest Arterial to JNPT Seaport

32) EMH at Kolar (Karnataka)

Metrices of logistics connectivity to Import-Export ports:

Nearest International Air Port: **Bangalore air**
Top two major sea ports: **Madras/Chennai Sea, jnpt**
Top two nearest major Air ports: **Bangalore air**, **Madras Air**
Nearest Arterial road: **Golden quadrilateral**

A synopsis on the Efficacy of the Arterial links of the EMH to Import-Export Ports:

**EMH at Kolar (Karnataka) to nearest arterial:** The distance between EMH at Kolar (Karnataka) to nearest arterial is around 3 km.
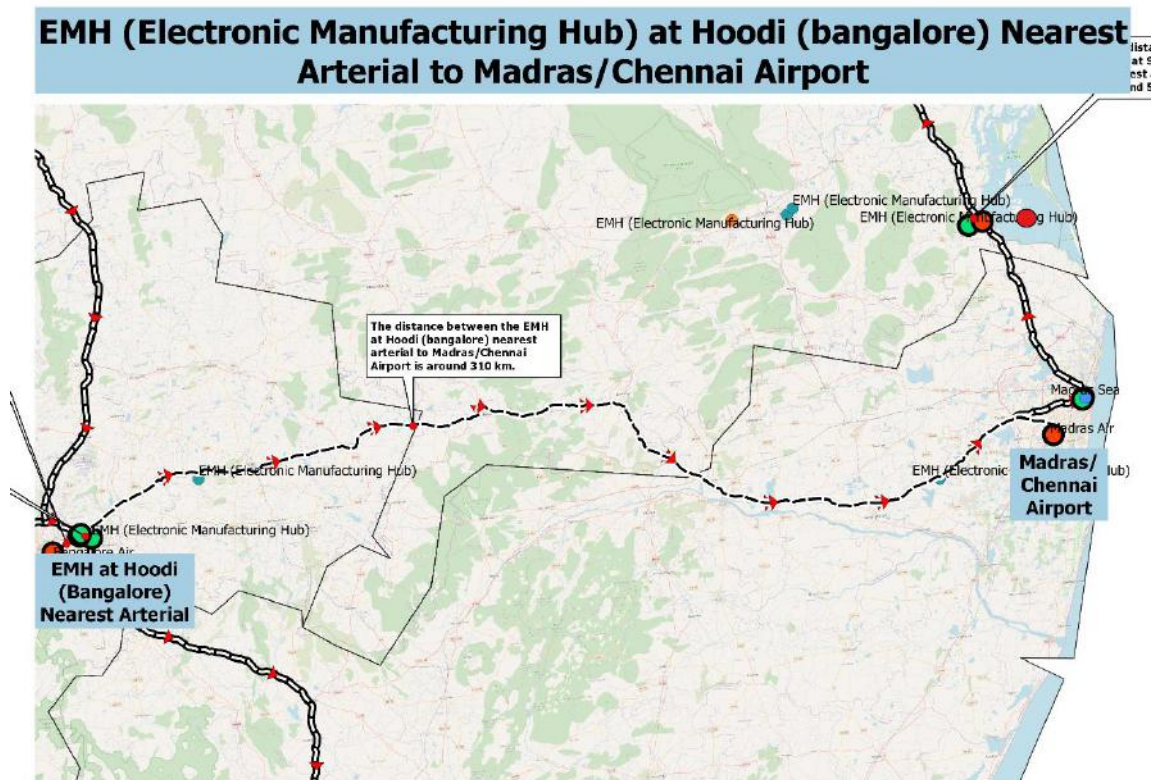

EMH at Kolar (Karnataka) to Major Airport 1 (Bangalore airport): The distance between EMH at Kolar (Karnataka) nearest arterial to Bangalore airport is around 50 km.

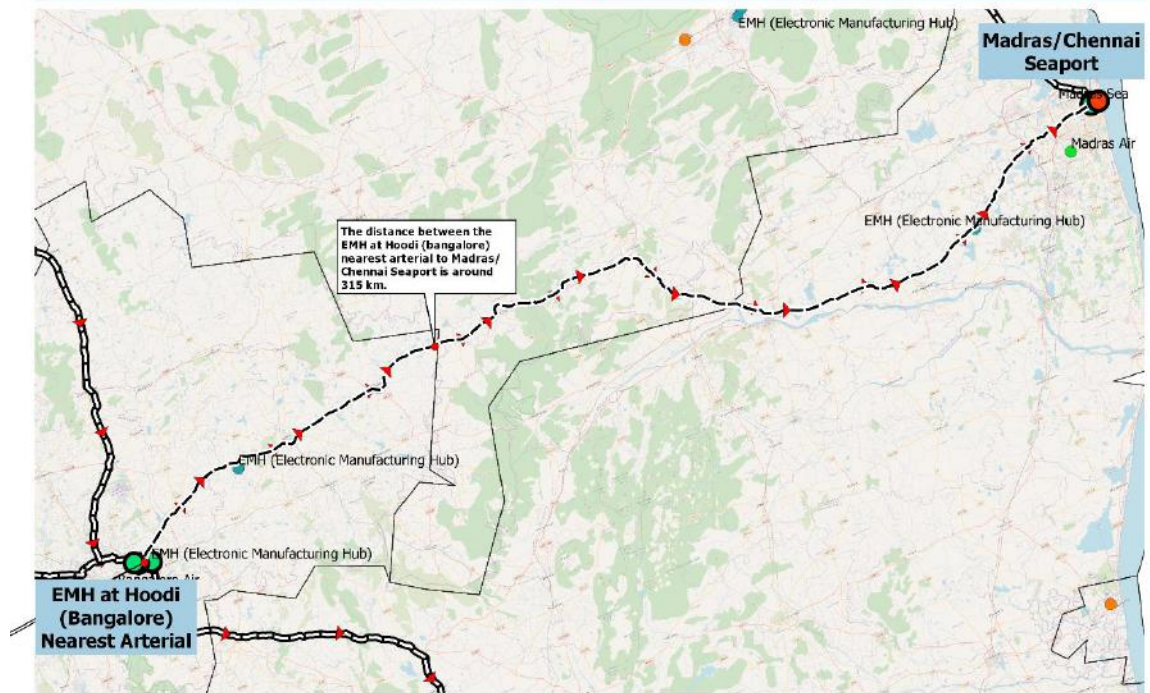**EMH (Electronic Manufacturing Hub) at kolar (karnataka) Nearest Arterial to Bangalore Airport**
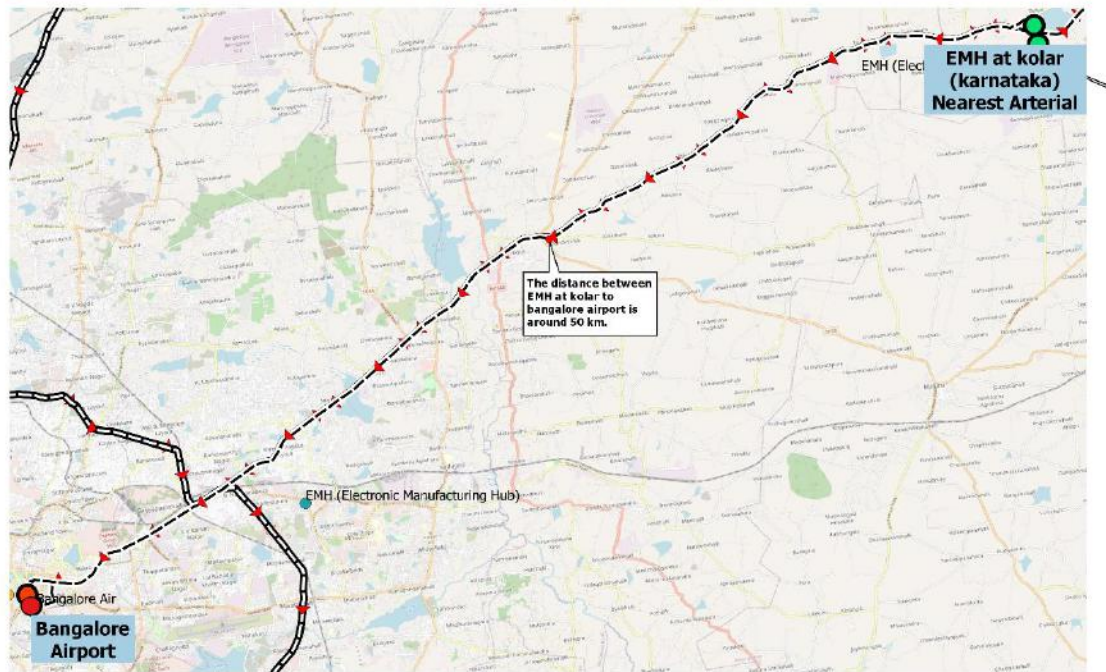
EMH at Kolar (Karnataka) to Nearest international Airport/Major Airport 2 (Madras/Chennai airport): The distance between EMH at Kolar (Karnataka) nearest arterial to Madras airport is around 268 km.

EMH (Electronic Manufacturing Hub) at kolar (karnataka) Nearest Arterial to Madras Airport
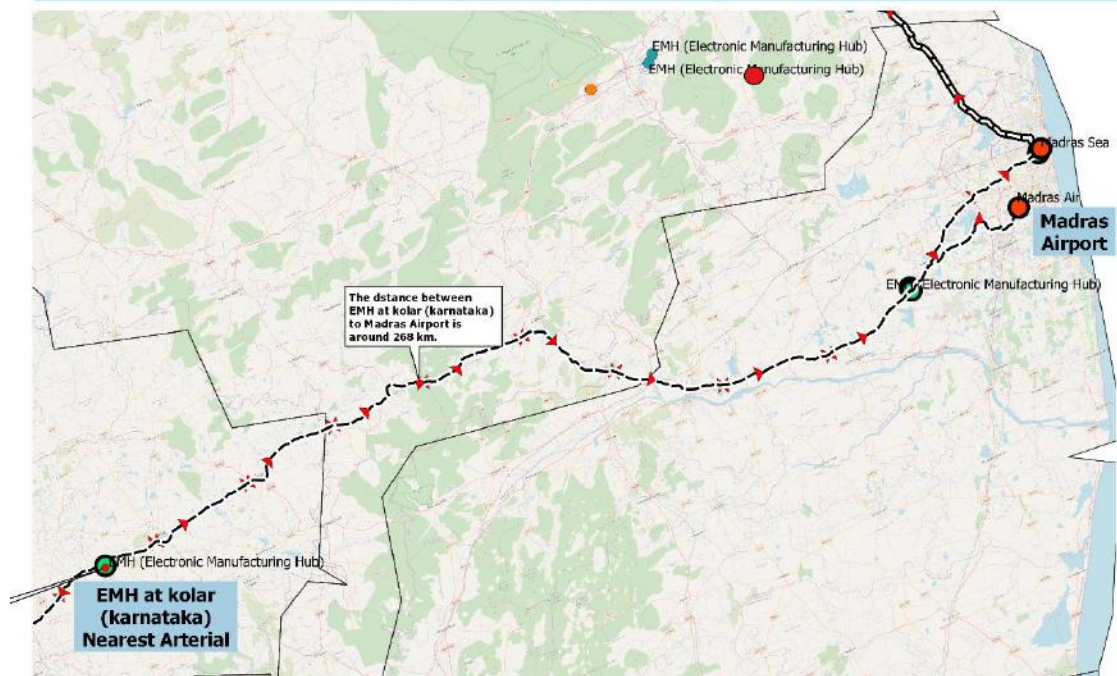
EMH at Kolar (Karnataka) nearest arterial to Nearest international Seaport/Major Seaport 1 (Madras/Chennai Seaport): The distance between EMH at Kolar (Karnataka) nearest arterial to Madras seaport is around 275 km.

EMH (Electronic Manufacturing Hub) at kolar (karnataka) Nearest Arterial to Madras Seaport
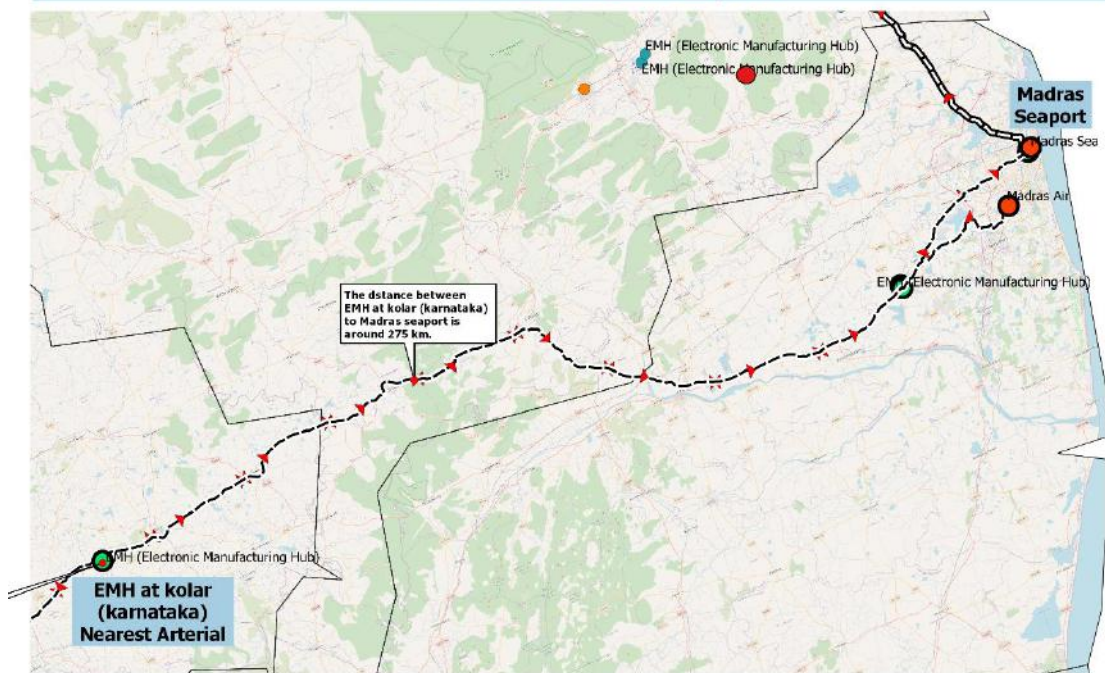
EMH at Kolar (Karnataka) nearest arterial to Major Seaport 2 (JNPT Seaport): The distance between EMH at Kolar (Karnataka) nearest arterial to JNPT seaport is around 980 km.

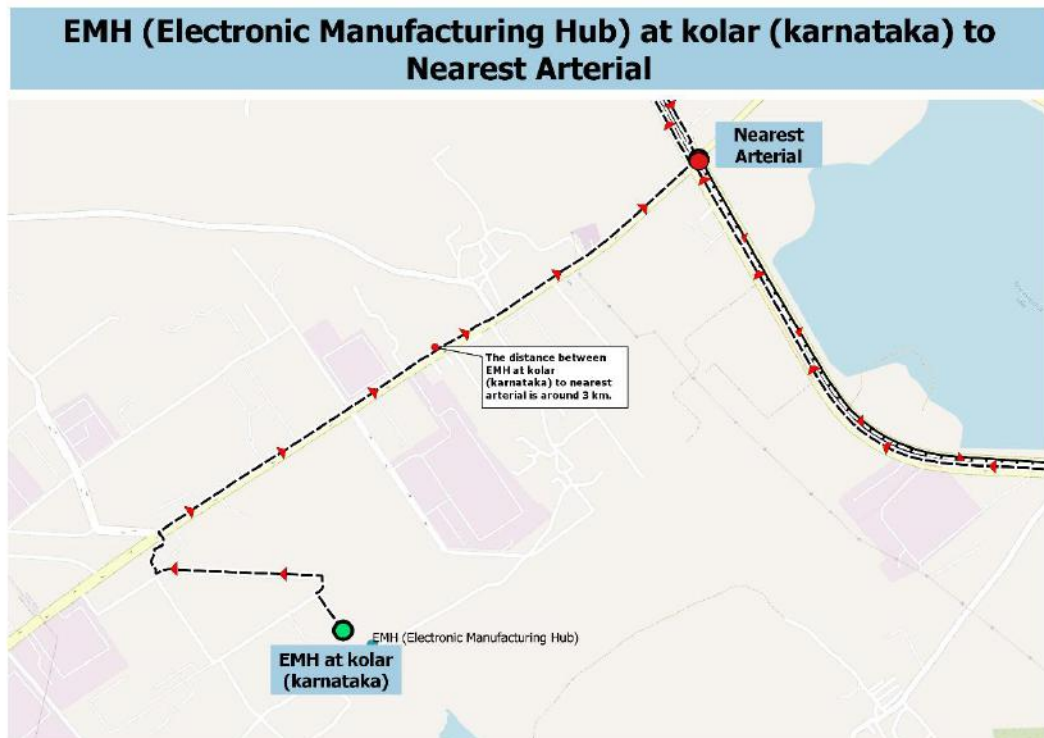EMH (Electronic Manufacturing Hub) at kolar (karnataka) Nearest Arterial to JNPT

Graph 3: The location of the domestic source of raw materials [SME clusters as per UNIDO] and EMCs locations

In the above graph, purple dots are used for EMC location, and yellow dots used for location of domestic source of raw material. Here, the location of domestic source of raw material comes from UNIDO's (united nations industrial development organization) list of SME clusters (Possible Electronics raw materials).

Graph 4: The location of the domestic markets for the finished products [Major city or towns as per high population density]

India Map with EMCs location, Raw material location and finished product domestic market
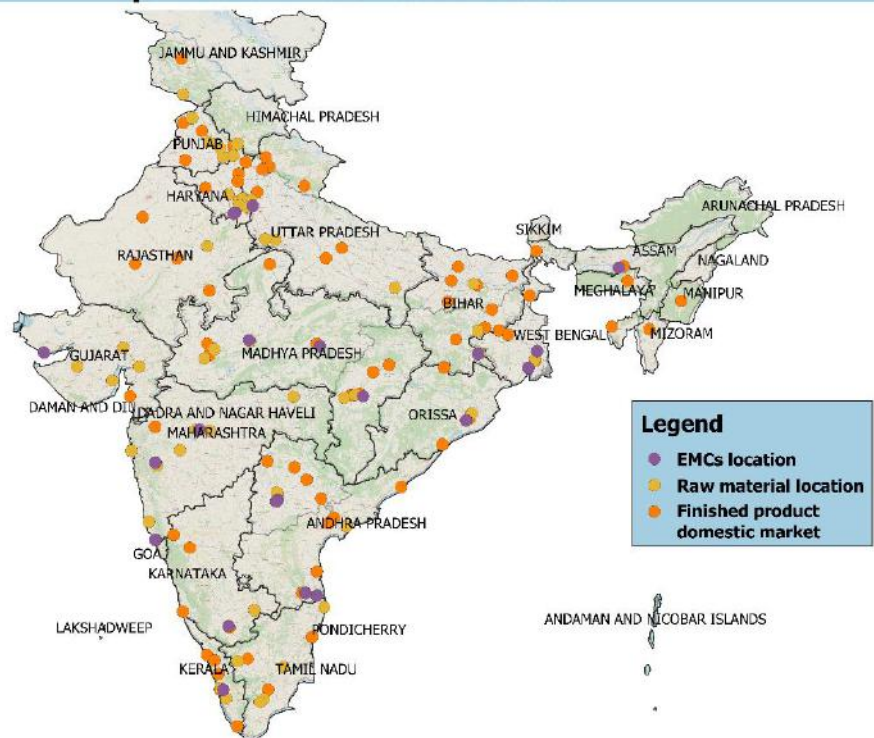
In the above graph, purple dots are used for EMC location, yellow dots used for location of domestic source of raw material, and orange dots used for finished product domestic market. Here, finished product domestic markets are assumed to be the cities with high population density (**Source: United Nations - World Population Prospects**).

Graph 5: India Map with National corridor, Manufacturing locations (EMC & other locations), India ports and pickup & drop locations

India Map with National Corridors, Manufacturing locations, India Ports locations, and Pickup (Raw material location) & Drop locations (finished product domestic market locations)
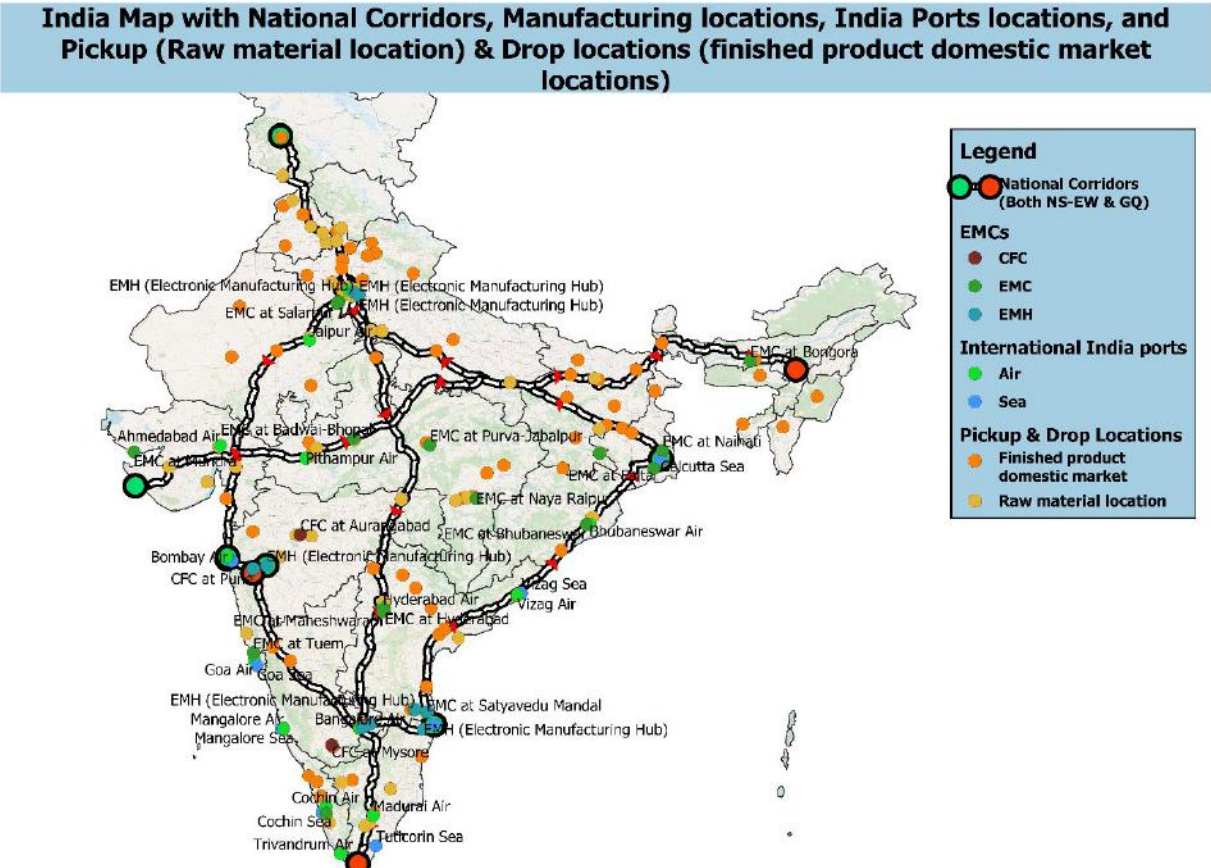
Indexing logistic efficiency

A) Parameter for indexing logistic efficiency - **"Km"**.

B) Factors for indexing logistic efficiency - **distance from EMC to,**
1) nearest arterial
2) International airport
3) International seaport
4) Major Airport 1
5) Major Seaport 1

C) Ideal location from an export led manufacturing perspective -
An ideal manufacturing location is,
1) that is located within 1 hour travelling distance from an
international airport and 1 hour distance from seaport.
2) The location is 1 hr from its ancilliary units that supply it the raw material.
3) the location is 1 hr from residential location.

(Note: 1hr on state highway / metro roads means 20 km, and 1hr on arterial road / National highway means 80 km)

D) Efficiency score based on above criteria (efficiency table)

Efficiency score criteria	Efficiency Level
>=75	Efficient
<75 and >=50	Moderate
<50	Inefficient

Table 6a: Logistic Efficiency Table for Electronic Manufacturing clusters (EMC's)

Logistic Efficiency Table for EMC's

Threshold (in km)= : Nearest Arterial = 120, International Airport = 200, International Seaport = 500, Major Airport 1 = 550, Major Seaport 1 = 900

S No	Exact location	Project Name	Sector Identified	Nearest Arterial (in kms)	Nearest Airport (in kms)	Nearest Seaport (in kms)	Major International Airport 1 [1 means closest] (in kms)	Major international Airport 2 (in kms)	Major International Seaport 1 (in kms)	International Seaport 1 (in kms)	Major International Seaport 2 (in kms)	Efficient Nearest Arterial (1 for 'yes', 0 for 'No')	Efficient International Airport (1 for 'yes', 0 for 'No')	Efficient International Seaport (1 for 'yes', 0 for 'No')	Efficient Major Airport 1 (1 for 'yes', 0 for 'No')	Efficient Major Seaport 1 (1 for 'yes', 0 for 'No')	Total efficiency	Efficiency level
1	Cherivi Village, Sathyavedu Mandal, Chittoor district, Andhra Pradesh, India	EMC at Satyavedu Mandal, Sri City, A.P (M/s. Sri City Pvt. Ltd.)	Telecom products, IT hardware, Consumer and Industrial Electronics, Set top boxes, Flat screen, LED, Automotive Electronic, Electronics Manufacturing Services, PCB manufacturing and Solar cells & Solar module manufacturers	9	88	74	74	88	305	74	1206	1	1	1	1	1	100.00%	Efficient
2	Kurakalva and Vikruthamala village, Renigunta and Yerpedu Mandal, Chittoor District, Near Airport, Tirupati, Andhra Pradesh, India	EMC-I at Tirupathi, A.P (M/s. Sri Venkateswara Mobile & Electronics Manufacturing Hub Pvt. Ltd.)	Mobile manufacturing units, components and accessories etc.	65	125	125	135	125	257	135	1080	1	1	1	1	1	100.00%	Efficient
3	Vikruthamala Village, Yerpedu Mandal, Chittoor District, Andhra Pradesh, India	EMC-II at Vikruthamala, Tirupathi, A.P (M/s. A.P. Industrial Infrastructure Corporation-APIIC)	Mobile devices and Telecom Equipment, Consumer Electronics, IT Systems and Hardware, Automotive Electronic, Sub Systems, Medical Electronics Equipment, Industrial Electronics etc.	65	125	125	135	125	257	135	1080	1	1	1	1	1	100.00%	Efficient
4	Bongora (Village), Chayani (Mouza), Palasbari (Revenue Circle), Kamrup (R) (District), Assam, India	EMC at Bongora, Assam (M/s. Assam Electronics Development Corporation Ltd.- AMTRON)	Smart Meter, Solar Products Manufacturing and assembly, IOT and Network Products etc.	17	887	907	1808	2420	2420	2420	2580	1	0	0	0	0	20.00%	Inefficient
5	Village Tuta, Sector-22, Naya Raipur, Tehsil Abhanpur, District Raipur, Chhattisgarh, India	EMC at Naya Raipur, Chhattisgarh (M/s. Chhattisgarh State Industrial Development Corporation Ltd.- CSIDC)	Manufacturing of LED products, solar products, mobile phones and consumer electronics.	290	1110	1080	1246	1110	1246	1080	1435	0	0	0	0	0	0.00%	Inefficient
6	Tuem Village, Pernem Taluka, North-Goa District, Goa, India	EMC at Tuem, Pernem, Goa (DoIT, Government of Goa)	Consumer electronics products, Medical electronic equipment, Telecom products and equipment, Mobile devices, Industrial electronics products	103	53	67	67	528	944	528	944	1	1	1	1	1	100.00%	Efficient
7	Village Tunda, Taluka-Mundra, District-Kutch, Gujarat, India	EMC at Mundra, Gujarat (M/s. Mundra Solar Technopark Private Limited-MSTPL)	Solar Photovoltaic Cell	240	357	852	852	852	1113	852	2023	0	0	0	0	0	20.00%	Inefficient
8	plot no-301 and 354, Adityapur, Saraikela-Kharsawan District, Jharkhand, India	EMC at Adityapur, Jharkhand (M/s. Adityapur Industrial Area Development Authority - AIADA)	Automotive Electronics	160	284	270	270	1286	1450	1430	1606	0	0	0	1	0	20.00%	Inefficient
9	Plot No.-360, KIADB, Industrial Area, Hebbal Hootagalli, Mysore, Karnataka, India	CFC at Mysore, Karnataka (M/s. Mysore ESDM Cluster)		156	136	470	470	136	470	470	1094	0	1	1	1	1	80.00%	Efficient
10	Kakkanad Village, Kanayannur Taluk, Ernakulam District, Kerala, India	EMC at Kakkanad, Kerala (M/s. Kerala Industrial Infrastructure Development Corporation - KINFRA)	Medical Electronics, power electronics and consumer electronics	197	38	20	20	505	661	506	661	0	1	1	1	1	80.00%	Efficient
11	Badwai, bhopal, madhya pradesh, India	EMC at Badwai-Bhopal, M.P. (M/s. Madhya Pradesh State Electronics Development Corporation Ltd.-MPSEDC)	ESDM (Telecom and IT Hardware)	6	713	733	733	713	733	733	1485	1	0	0	0	0	40.00%	Inefficient

Location	Organization	Products / Sector														%	Category
12 Purva, Jabalpur, madhya pradesh, India	EMC at Purva-Jabalpur, M.P (M/s. Madhya Pradesh State Electronics Development Corporation Ltd.-MPSEDC)	ESDM (Solar and industrial Electronics)	100	850	1060	850	1090	1060	1410	1	0	0	0	0	20.00%	Inefficient
13 Plot No. P30, Shendra Five Star Industrial Area, Aurangabad District, Maharashtra, India	CFC at Aurangabad, Maharashtra (M/s. Deogiri Electronics Cluster Pvt. Ltd.-DECPL)	1) Electronics Manufacturing Centre, 2) Electronic Design and Test Laboratory 3) Modular Cabinet Manufacturing Centre 4) Innovation and Training Centre	271	355	355	355	1200	355	1200	0	0	1	1	1	60.00%	Moderate
14 Plot No. J/P-38, J 462, and J462/P, Pimpri Industrial Area, Pune, Maharashtra, India	CFC at Pune, Maharashtra (M/s. MCCIA Electronic Cluster Foundation-MECF)	1) Design centre and rapid prototyping, 2) Test and measurement lab, 3) Surface mount technology (SMT) line, 4) EMI/EMC lab, 5) Environmental testing and certification lab	9	111	111	111	1340	111	1160	1	1	1	1	1	100.00%	Efficient
15 Infovalley, Bhubaneswar Industrial Area, Khurda District, Odisha, India	EMC at Bhubaneswar, Odisha (M/s Odisha Industrial Infrastructure Development Corporation-IDCO)	LED products, solar products, mobile phones and consumer electronics	5	19	405	1165	1383	1165	1725	1	1	1	0	0	60.00%	Moderate
16 Karoli Industrial Area, Bhiwadi, District Alwar, Rajasthan, India	EMC at Karoli I.A,Rajasthan (M/s. Rajasthan State Industrial Development & Investment Corporation Ltd.-RIICO)	Mobile Devices, Telecom Equipment, Consumer Electronics, Industrial Electronics etc	70	160	1230	160	1200	1230	2200	1	1	0	1	0	60.00%	Moderate
17 SPL-1 Salarpur, Khushkhera, Bhiwadi, Rajasthan, India	EMC at Salarpur IA, Rajasthan (M/s. ELCINA Electronics Manufacturing Cluster Pvt. Ltd.-EEMCPL)	Components for electronic products	15	76	1230	76	1200	1230	2000	1	1	0	1	0	60.00%	Moderate
18 e-City, FabCity, Hyderabad, Telangana, India	EMC at Hyderabad, Telangana (M/s. Telangana State Industrial Infrastructure Corporation Ltd.-TSIIC)	Mobile manufacturing units, consumer electronics, EMC consumables and accessories etc.	17	15	626	547	637	637	712	1	1	0	1	1	80.00%	Efficient
19 Maheshwaram, Ranga Reddy District, Telangana, India	EMC at Maheshwaram,Telangana (M/s.Telangana State Industrial Infrastructure Corporation Ltd.-TSIIC)	LED components, consumables and accessories etc	15	20	636	535	637	637	712	1	1	0	1	1	80.00%	Efficient
20 Plot No.-1, Block-C, Ecotech-VI Industrial Area, Greater Noida, Uttar Pradesh, India	EMC at Greater Noida, UP (M/s. TEGNA Electronics Pvt. Ltd.-TEPL)	Mobile Phones and accessories, Point of Sales Systems (POS), Drive Video Recorders, USB Cables, Power Banks, A.c Adapters, USB, SSD, Memory Cards etc.	61	43	1399	43	1369	1399	2029	1	1	0	1	0	60.00%	Moderate
21 Falta Industrial Growth centre, Sector-4 and 5, Ramnagar, district South 24 parganas, west bengal, India	EMC at Falta,West Bengal (M/s. West Bengal Electronics Industry Development Corporation Ltd.-WEBEL)	Medical Electronics, industrial electronics, LED lighting (luminaries and chip fabrication), solar PV modules, cells and wafer fabrication, power supply, energy meter, etc.	41	74	58	1568	1589	1555	2146	1	1	1	0	0	60.00%	Moderate
22 Naihati Town, North 24 Parganas District, West Bengal, India	EMC at Naihati, West Bengal (M/s. West Bengal Electronics Industry Development Corporation Ltd.-WEBEL)	Consumer electronics Health & medical electronics, industrial electronics, LED lighting solar PV etc.	42	37	43	1400	2121	1550	2091	1	1	1	0	0	60.00%	Moderate

The above Efficiency table (Table 6) shows that out of 22 EMC's 9 are efficient EMC's, 7 are moderate EMC's and 6 are inefficient EMC's.

Table 6b: Logistic Efficiency Table for Electronic Manufacturing Hubs (EMH's)

Logistic Efficiency Table for EMH's

S No	Other Manufacturing Locations	Nearest Arterial (in kms)	Nearest Airport (in kms)	Nearest Seaport (in kms)	Major International Airport 1 [1 means closest] (in kms)	Major international Airport 2 (in kms)	Major International Seaport 1 (in kms)	Major International Seaport 2 (in kms)	Efficient Nearest Arterial (1 for 'yes', 0 for 'No')	Efficient International Airport (1 for 'yes', 0 'No')	Efficient International Seaport (1 for 'yes', 0 for 'No')	Efficient Major Airport 1 (1 for 'yes', 0 for 'No')	Efficient Major Seaport 1 (1 for 'yes', 0 for 'No')	Total efficiency	Efficiency level
								Threshold (in km)=	120	200	500	550	900		
1	Sriperumbudur, Tamil nadu	1	40	50	40	280	50	1180	1	1	1	1	1	100.00%	Efficient
2	Sri City	5	92	70	92	70	70	1210	1	1	1	1	1	100.00%	Efficient
3	Kolar, Karnataka	3	50	275	50	268	275	980	1	1	1	1	1	100.00%	Efficient
4	Ranjangaon MIDC, Pune	65	102	102	102	1331	102	1151	1	1	1	1	1	100.00%	Inefficient
5	Chinchwad, Pune	7	102	102	102	1331	102	1151	1	1	1	1	1	100.00%	Inefficient
6	Greater Noida, uttar pradesh	8	20	1405	20	1375	1405	2035	1	1	0	1	0	60.00%	Efficient
7	Greater Noida jail road, Greater Noida, uttar pradesh	9	34	1390	34	1360	1390	2020	1	1	0	1	0	60.00%	Inefficient
8	Ecotech 1, greater Noida, uttar pradesh	9	34	1360	34	1360	1390	2020	1	1	0	1	0	60.00%	Inefficient
9	Tirupathi-I	65	125	135	125	257	135	1080	1	1	1	1	1	100.00%	Efficient
10	Tirupathi-II	65	125	135	125	257	135	1080	1	1	1	1	1	100.00%	Efficient
11	Hoodi, Bangalore	5	10	315	10	310	315	930	1	1	1	1	1	100.00%	Inefficient