

# VISION-2020

## TELECOM IMPLEMENTATION PLAN



Ministry of Railways  
(Railway Board)  
January, 2010

# Telecom Directorate

No.2009/Tele/TCM/1 Pt.

**Sub: Action Plan to realize the goals of Vision 2020.**  
**Ref: (i) Adv./Safety Note dated 31.12.2009.**  
**(ii) CRB note no 2009/Infra/12/10 Dt. 15.01.2010.**

**Para 6.3(b)**  
*Of MR's  
statement*

**MOBILISING OTHER SOURCES OF REVENUE**  
**(b) ADVERTISING: Launching a separate TV channel**

An idea of launching of **Rail TV channel** is under consideration of ICT expert Committee headed by Shri. Sam Pitroda. The final recommendation of the committee on **Rail TV channel** is likely to be finalized shortly. The content management and revenue sharing proposal should be detailed by Commercial and PR wings of Railways.

**Para 6.3(d)**  
*of MR's  
statement*

**Para 6.3 (d) TELECOM & IT:** *Our Vision is also to tap similar revenue generation potential in the telecom and IT sector, using the 64,000-km long 'right of way' for laying optic fibres, signalling towers and other infrastructure assets that Indian Railways owns. This will be done in collaboration between the **RailTel Corporation and private sector companies in a transparent framework.***

Three proposals are under consideration of ICT expert Committee headed by Shri. Sam Pitroda for expanding the RailTel business. These are:-

- (a) Provision of OFC on balance 15,000 Rkms of Indian Railway network.
- (b) Provision of Broadband connectivity to 50,000 Panchayats using RailTel's existing OFC network.
- (c) Provision of Broadband services to public on RailTel OFC network on PPP basis.

Proposals may be funded either on PPP basis or partly through Universal Service Obligation (USO) fund kept with Ministry of Communications & Information Technology (Department of Telecommunications) for extending communication services to remote areas of the country.

Provision of OFC on balance 15000 Rkms is expected to be completed by 2014. Broadband connectivity to 50000 Panchayats is likely to take off by March 2011 for completion by 2015.

**Para-6.4**  
*Of MR's  
statement*

**TECHNOLOGICAL EXCELLENCE:**

**(i) *Improvement of control and voice/video communication to aid IT application across the country:***

There is a need to setup high speed communication network to carry voice, video & data traffic. This high speed communication network will provide a common pipe for transmission of information relating to all IT, voice & video applications. This

network is proposed to be provided on all high density routes by 2020. The action plan of implementation of this network is as under:

Works proposal will be processed for implementation of 2,000 Rkm of this network in 2011-12 & is expected to complete in the same year itself. Works proposal for 10,000 Rkm will be processed by 2012-13 so as to complete the implementation by 2015-16. Work for implementation of this networks on another 8,000 km will be processed by 2015-16 for completion before 2020.

- (ii) ***A satellite-based train tracking system to provide real-time information on train location to passengers through a variety of devices including mobile phones.***

Proposal for provision for Satellite Imaging for Rail Navigation (SIMRAN) system based on performance of a pilot project jointly by RDSO/LKO and IIT/Kanpur is under consideration of ICT expert Committee headed by Shri. Sam Pitroda. If recommend by the committee and approved by Ministry of Railways, a work proposal will be processed for inclusion in annual budget 2010-11 itself. The scheme is likely to be implemented in by 2011-12. This work will cost Rs 85 Cr.

Once established, this system is expected to receive large number of SMSs to get real time train information, therefore, this may generate revenues for Indian Railways by entering revenue sharing arrangement with mobile service providers.

***Annex.-III- Operational Strategy:- Plan of Action short term & long term.***

***Item-4 Passenger Business:***

- (c) ***375 stations identified as Adarsh Stations would be developed and provided with all modern amenities like drinking water, toilets, waiting rooms, dormitory and modern train indication, displays and signages.***

**High quality train information display Boards:**

It is planned to provide high quality true colour train information display boards at 375 Adarsh station at a cost Rs.200 crore. These Boards will be provided progressively. First 100 stations by 2013-14, next 200 stations by 2014-15 and balance 75 stations before 2015.

***Annex.III  
Item 10(g)***

***Signal & Telecom:***

***Mobile train radio communication, extension of optical fibre cable (OFC) over the entire route, IP-based train control communication, voice network modernization and replacement of overhead alignment with underground cables/OFCs are among the measures to be used to improve reliability of the communication system and enhance the capability of the transport system.***

- (i) **Mobile Train Radio Communication (MTRC) system:**

MTRC is required to be provided on all 'A', 'B' & 'C' routes in terms of recommendations of Justice Khanna's RSRC 1998, accepted by the full Board and tabled in the Parliament. It is therefore proposed to provide MTRC on all 'A', 'B', 'C' & other important routes (D Spl. & E Spl.) totaling 20,000 Rkms at a cost of Rs. 1400 crore. System will provide captive communication for railway operations. It will provide communication to train crews during run of the train, Station Masters, Control Office, maintenance teams, shunting teams, LC gates, etc. The GSM(R) based MTRC system will also be used as a carrier for modern signaling & train protection systems. By 2011-12 the system is proposed to be implemented on 4,000 Rkms. Next 10000 Rkms will be covered with this system by 2016-17 and balance 6000 Rkms by 2020.

**(ii) Provision of Optical Fiber Cable(OFC) on balance 15,000 Rkms.**

Provision of OFC on balance unsanctioned 15000 RKms on Indian Railways is under consideration by ICT Expert Committee through PPP/ USO fund. Alternatively, this would be taken up at railway cost for improving safety and efficiency of train control communication and for provisioning of IT applications such as PRS, UTS, FOIS, CMS, TMS, NTES, Railnet etc. It is therefore planned to provide OFC on balance 15,000 RKM at a cost of Rs. 600 crore., 2000 RKM will be provided by 2011-12, 10,000 Rkms 2016-17, 3000 Rkms before 2020.

**(iii) IP based Train Control Communication:**

Railway control communication is vital for day to day running of trains. It demands very high availability. Today, this system works on OFC and PD-MUX. As technology is advancing towards unification, the control communication shall be upgraded in due course and made IP enabled. It will help railways to keep the vital control communication in line with current technology and bring the advantages of unified IP network in terms of higher reliability, higher availability and ease of maintenance. It is planned to upgrade the control communication on all routes with about 5,000 Rkms by 2011-12, next 30,000 Rkms by 2016-17 and balance 30,000 Rkms by 2020. Total anticipated cost to implement this scheme will be Rs. 550 crore.

**(iv) Freedom from Overhead Telecom Lines:**

In number of Railway sections, train control communication is still being provided on overhead alignment which are noisy and prone to outside interference vagaries of nature resulting in frequent failures besides this technology having become obsolete. There is no maintenance support available for this out dated technology. Therefore, balance overhead alignment totaling 2700 Rkms including those on Meter Gauge & Narrow Gauge must be replaced by Underground Quad and OFC cables for providing proper & reliable communication for train operation at a cost of Rs. 260 crore. The work of replacement of overhead alignment will be completed on first 1000 Kms by 2011-12, next 1700 Kms before 2016-17.

(v) **Voice Network Modernisation:**

Indian Railways has about 200 major electronic exchanges across the country for administrative purpose. These are all Time Division Multiplexing (TDM) based which is a technology on its way out. The voice network of Railways will thus, be migrated to IP using Voice over IP (VOIP) technologies. This will provide the advantage of communication from anywhere to anywhere in a seamless manner. Anticipated cost of providing this system on major locations will be about Rs. 70 Crs. By 2012-13, the backbone of the Railways voice network shall be upgraded to VoIP along with upgradation of the zonal exchanges with this technology. Modernisation of the balance network will be done in a phased manner at an anticipated cost of Rs.500 crore.

**Annex.III:**

**Item 10(h)** *Broadband internet and multimedia facilities and high quality train information displays and information boards at stations and in running trains would be introduced to improve the quality of passenger service.*

(i) **Broadband internet facility:**

It is planned to provide broadband internet facilities in all Rajdhani, Shatabadi, Duranto, Sampark Kranti, Garib Rath and important Mail Exp. trains by 2020 at a cost of Rs. 1000 crore. It is planned to cover all Rajdhani, Shatabadi and Duranto with internet facility by 2012-13, all Sampark Kranti, Garib Rath and important Mail Exp. trains by 2016-17.

(ii) **Train information board in running trains:**

It is planned to provide Train Information Display Board in running trains to cover all Rajdhani, Shatabadi, Duranto, Sampark Kranti, Garib Rath and important Mail Exp. trains at a cost of Rs. 300 crore. It is planned to cover all Rajdhani, Shatabadi and Duranto Exp. train by 2012-13, all Sampark Kranti, Garib Rath and important Mail Exp. trains by 2016-17.

(iii) **High quality train information display board at station:**

It has been planned to provide high quality true color LED display boards at A, B, & C class and other important stations at a cost of about Rs. 500 cr. 50% of 'A' class stations are planned to be covered with these boards by 2011-12. Remaining A class, B & C class stations will be covered by 2016-17.

Details of individual activities para 6.4 onwards are enlisted in Annexure – I to XI.

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**ACTION PLAN : VISION 2020****DIRECTORATE : TELECOMMUNICATION****Date : 22.01.2010**

<b>Resources &amp; Planning for: Improvement of Control and Voice/Video communication to aid IT application across the IRs</b>					
		<b>Period</b>			<b>Strategy</b>
		<b>2010-11/2011-12</b>	<b>2012-13/2016-17</b>	<b>2017-18/2019-20</b>	
		<b>(11<sup>th</sup> Plan) 2 Yrs</b>	<b>(12<sup>th</sup> Plan) 5 Yrs</b>	<b>(13<sup>th</sup> Plan) 3 Yrs</b>	
1	Average quantum of work achieved in similar previous periods				
2	Quantum to achieve in 2020 vision	2000 RKM	10000 RKM	8000 RKM	
3	Finance required	Rs. 100 Cr	Rs. 500 Cr	Rs. 400 Cr	
4	Major material/Industrial inputs including M&P and technology	Trade Capacity Exists	Trade Capacity Exists	Trade Capacity Exists	
5	Major contracts/agencies to aligned	Routine Works/Store Tenders	Routine Works/Store Tenders	Routine Works/Store Tenders	
6	Major labour inputs to be organized including training	Upgradation of Telecom Facilities and Training for Telecom Staff at IRISSET & all zonal training schools. Trainers need to be developed.	Upgradation of Telecom Facilities and Training for Telecom Staff at IRISSET & all zonal training schools. Trainers need to be developed.	Upgradation of Telecom Facilities and Training for Telecom Staff at IRISSET & all zonal training schools. Trainers need to be developed.	
7	Major management inputs	-	-	-	
8	Major land inputs/ depots required	-	-	-	
9	Planning (including sanction, routes, location)	Work for 12000 RKM need to be proposed for this and subsequent period.	Works for 8000 RKM needs to be proposed for subsequent period.		

**ACTION PLAN : VISION 2020****DIRECTORATE : TELECOMMUNICATION****Date : 22.01.2010**

<b>Resources &amp; Planning for: Satellite based Real Time Train Information System</b>					
		<b>Period</b>			<b>Strategy</b>
		<b>2010-11/2011-12</b>	<b>2012-13/2016-17</b>	<b>2017-18/2019-20</b>	
		<b>(11<sup>th</sup> Plan) 2 Yrs</b>	<b>(12<sup>th</sup> Plan) 5 Yrs</b>	<b>(13<sup>th</sup> Plan) 3 Yrs</b>	
1	Average quantum of work achieved in similar previous periods				
2	Quantum to achieve in 2020 vision	6000 Locos/MEMUs/EMUs	4000 Locos/MEMUs/EMUs		
3	Finance required	Rs. 70 Cr	Rs. 15 Cr		
4	Major material/Industrial inputs including M&P and technology	Trade Capacity Exists	Trade Capacity Exists		
5	Major contracts/agencies to aligned	Special Works, Tie ups is needed with IIT, Kanpur and Industry			
6	Major labour inputs to be organized including training	Upgradation of Telecom Facilities and Training for Telecom Staff at IRISSET & all zonal training schools. Trainers need to be developed.			
7	Major management inputs				
8	Major land inputs/ depots required				
9	Planning (including sanction, routes, location)	Entire work needs to be sanctioned.			

**ACTION PLAN : VISION 2020****DIRECTORATE : TELECOMMUNICATION****Date : 22.01.2010**

<b>Resources &amp; Planning for: High Quality Train Information Boards at Adarsh stations</b>					
		<b>Period</b>			<b>Strategy</b>
		<b>2010-11/2011-12</b>	<b>2012-13/2016-17</b>	<b>2017-18/2019-20</b>	
		<b>(11<sup>th</sup> Plan) 2 Yrs</b>	<b>(12<sup>th</sup> Plan) 5 Yrs</b>	<b>(13<sup>th</sup> Plan) 3 Yrs</b>	
1	Average quantum of work achieved in similar previous periods				
2	Quantum to achieve in 2020 vision	75 stn	300 stn		
3	Finance required	Rs. 40 Cr	Rs. 160 Cr		
4	Major material/Industrial inputs including M&P and technology	Trade Capacity Exists	Trade Capacity Exists	Trade Capacity Exists	
5	Major contracts/agencies to aligned	Routine Works/Store Tenders	Routine Works/Store Tenders	Routine Works/Store Tenders	
6	Major labour inputs to be organized including training	-	-	-	
7	Major management inputs		Railway to plan and develop manufacturing facility of display board inhouse in the S&T Workshops.		
8	Major land inputs/ depots required				
9	Planning (including sanction, routes, location)	Works for all 375 stations need to be sanctioned for this and subsequent period.			



**ACTION PLAN : VISION 2020****DIRECTORATE : TELECOMMUNICATION****Date : 22.01.2010**

Resources & Planning for: Mobile Train Radio Communication					
		Period			Strategy
		2010-11/2011-12	2012-13/2016-17	2017-18/2019-20	
		(11 <sup>th</sup> Plan) 2 Yrs	(12 <sup>th</sup> Plan) 5 Yrs	(13 <sup>th</sup> Plan) 3 Yrs	
1	Average quantum of work achieved in similar previous periods	390 RKM/Yr	156 RKM/Yr	260 RKM/Yr	
2	Quantum to achieve in 2020 vision	4000 RKM	10000 RKM	6000 RKM	
3	Finance required	Rs. 280 Cr	Rs. 700 Cr	Rs. 420 Cr	
4	Major material/Industrial inputs including M&P and technology	Trade Capacity Exists	Trade Capacity Exists	Trade Capacity Exists	
5	Major contracts/agencies to aligned	Routine Works/Store Tenders	Routine Works/Store Tenders	Routine Works/Store Tenders	
6	Major labour inputs to be organized including training	Upgradation of Telecom Facilities and Training for Telecom Staff at IRISSET & all zonal training schools. Trainers need to be developed. Training is to be arranged at OEMs place as well.	Upgradation of Telecom Facilities and Training for Telecom Staff at IRISSET & all zonal training schools. Trainers need to be developed. Training is to be arranged at OEMs place as well.	Upgradation of Telecom Facilities and Training for Telecom Staff at IRISSET & all zonal training schools. Trainers need to be developed. Training is to be arranged at OEMs place as well.	
7	Major management inputs	-	-	-	
8	Major land inputs/ depots required	-	-	-	
9	Planning (including sanction, routes, location)	Sanction for 3450 RKM exists. Work for 10550 RKM needs to be sanctioned for this and subsequent period.	Works for 6000 RKM needs to be sanctioned for subsequent period.		

**ACTION PLAN : VISION 2020****DIRECTORATE : TELECOMMUNICATION****Date : 22.01.2010**

Resources & Planning for: Provision of OFC on Balance 15000 RKM on IRs					
		Period			Strategy
		2010-11/2011-12	2012-13/2016-17	2017-18/2019-20	
		(11 <sup>th</sup> Plan) 2 Yrs	(12 <sup>th</sup> Plan) 5 Yrs	(13 <sup>th</sup> Plan) 3 Yrs	
1	Average quantum of work achieved in similar previous periods	4000 RKM/Yr	3500 RKM/Yr	4000 RKM/Yr	
2	Quantum to achieve in 2020 vision	2000 RKM	10000 RKM	3000 RKM	
3	Finance required	Rs. 80 Cr	Rs. 400 Cr	Rs. 120 Cr	
4	Major material/Industrial inputs including M&P and technology	Trade Capacity Exists	Trade Capacity Exists	Trade Capacity Exists	
5	Major contracts/agencies to aligned	Routine Works/Store Contracts	Routine Works/Store Contracts	Routine Works/Store Contracts	
6	Major labour inputs to be organized including training	-	-	-	
7	Major management inputs				
8	Major land inputs/ depots required				
9	Planning (including sanction, routes, location)	Works for 12000 RKM of OFC needs to be sanctioned for this and subsequent period.	Works for 3000 RKM of OFC needs to be sanctioned for subsequent period.		

**ACTION PLAN : VISION 2020****DIRECTORATE : TELECOMMUNICATION****Date : 22.01.2010**

Resources & Planning for: IP Based Train Control Communication					
		Period			Strategy
		2010-11/2011-12	2012-13/2016-17	2017-18/2019-20	
		(11 <sup>th</sup> Plan) 2 Yrs	(12 <sup>th</sup> Plan) 5 Yrs	(13 <sup>th</sup> Plan) 3 Yrs	
1	Average quantum of work achieved in similar previous periods	-	-	-	
2	Quantum to achieve in 2020 vision	5000 RKM	30000 RKM	30000 RKM	
3	Finance required	Rs. 42.5 Cr	Rs. 255 Cr	Rs. 255 Cr	
4	Major material/Industrial inputs including M&P and technology	Trade Capacity Exists	Trade Capacity Exists	Trade Capacity Exists	
5	Major contracts/agencies to aligned	Routine Works/Store Contracts	Routine Works/Store Contracts	Routine Works/Store Contracts	
6	Major labour inputs to be organized including training	Upgradation of Telecom Facilities and Training for Telecom Staff at IRISSET & all zonal training schools. Trainers need to be developed	Upgradation of Telecom Facilities and Training for Telecom Staff at IRISSET & all zonal training schools. Trainers need to be developed	Upgradation of Telecom Facilities and Training for Telecom Staff at IRISSET & all zonal training schools. Trainers need to be developed	
7	Major management inputs	Railway to plan and develop manufacturing facility of display board inhouse in the S&T Workshops.	-	-	
8	Major land inputs/ depots required	-	-	-	
9	Planning (including sanction, routes, location)	Works for 35000 RKM needs to be sanctioned for this and subsequent period	Works for 30000 RKM needs to be sanctioned for subsequent period.		

**ACTION PLAN : VISION 2020****DIRECTORATE : TELECOMMUNICATION****Date : 22.01.2010**

<b>Resources &amp; Planning for: Replacement of overhead alignment</b>					
		<b>Period</b>			<b>Strategy</b>
		<b>2010-11/2011-12</b>	<b>2012-13/2016-17</b>	<b>2017-18/2019-20</b>	
		<b>(11<sup>th</sup> Plan) 2 Yrs</b>	<b>(12<sup>th</sup> Plan) 5 Yrs</b>	<b>(13<sup>th</sup> Plan) 3 Yrs</b>	
1	Average quantum of work achieved in similar previous periods	2000 RKM/Yr	2500 RKM/Yr	2200 RKM/Yr	
2	Quantum to achieve in 2020 vision	1000 RKM	1700 RKM		
3	Finance required	60 Cr	102 Cr		
4	Major material/Industrial inputs including M&P and technology	Trade Capacity Exists	Trade Capacity Exists		
5	Major contracts/agencies to aligned	Routine Store/Works contract	Routine Store/Works contract		
6	Major labour inputs to be organized including training	-	-		
7	Major management inputs	-	-		
8	Major land inputs/ depots required	-	-		
9	Planning (including sanction, routes, location)	Works for 2700 RKM needs to be proposed			

**ACTION PLAN : VISION 2020****DIRECTORATE : TELECOMMUNICATION****Date : 22.01.2010**

<b>Resources &amp; Planning for: Voice Network Modernization</b>					
		<b>Period</b>			<b>Strategy</b>
		<b>2010-11/2011-12</b>	<b>2012-13/2016-17</b>	<b>2017-18/2019-20</b>	
		<b>(11<sup>th</sup> Plan) 2 Yrs</b>	<b>(12<sup>th</sup> Plan) 5 Yrs</b>	<b>(13<sup>th</sup> Plan) 3 Yrs</b>	
1	Average quantum of work achieved in similar previous periods.	5 per Yr	2 per Yr	3 per Yr	
2	Quantum to achieve in 2020 vision	20 Exch	100 Exch	70 Exch	
3	Finance required	Rs. 70 Cr	Rs. 300 Cr	Rs. 130 Cr	
4	Major material/Industrial inputs including M&P and technology	Trade Capacity Exists	Trade Capacity Exists	Trade Capacity Exists	
5	Major contracts/agencies to aligned	Routine Works/Store Contracts	Routine Works/Store Contracts	Routine Works/Store Contracts	
6	Major labour inputs to be organized including training	Upgradation of Telecom Facilities and Training for Telecom Staff at IRISSET & all zonal training schools. Trainers need to be developed.	Upgradation of Telecom Facilities and Training for Telecom Staff at IRISSET & all zonal training schools. Trainers need to be developed.	Upgradation of Telecom Facilities and Training for Telecom Staff at IRISSET & all zonal training schools. Trainers need to be developed.	
7	Major management inputs				
8	Major land inputs/ depots required				
9	Planning (including sanction, routes, location)	Works for 120 exchanges needs to be sanctioned for this and subsequent period	Works for 70 exchanges needs to be sanctioned for subsequent period		

**ACTION PLAN : VISION 2020****DIRECTORATE : TELECOMMUNICATION****Date : 22.01.2010**

<b>Resources &amp; Planning for: Broadband Internet Facility</b>					
		<b>Period</b>			<b>Strategy</b>
		<b>2010-11/2011-12</b>	<b>2012-13/2016-17</b>	<b>2017-18/2019-20</b>	
		<b>(11<sup>th</sup> Plan) 2 Yrs</b>	<b>(12<sup>th</sup> Plan) 5 Yrs</b>	<b>(13<sup>th</sup> Plan) 3 Yrs</b>	
1	Average quantum of work achieved in similar previous periods	-	-	-	
2	Quantum to achieve in 2020 vision	78 trains	620 trains		
3	Finance required	Rs. 156 Cr	Rs. 844 Cr		
4	Major material/Industrial inputs including M&P and technology	Trade Capacity Exists	Trade Capacity Exists	Trade Capacity Exists	
5	Major contracts/agencies to aligned	Routine Works/Store Contracts	Routine Works/Store Contracts	Routine Works/Store Contracts	
6	Major labour inputs to be organized including training	Upgradation of Telecom Facilities and Training for Telecom Staff at IRISSET & all zonal training schools. Trainers need to be developed.	Upgradation of Telecom Facilities and Training for Telecom Staff at IRISSET & all zonal training schools. Trainers need to be developed.	Upgradation of Telecom Facilities and Training for Telecom Staff at IRISSET & all zonal training schools. Trainers need to be developed.	
7	Major management inputs				
8	Major land inputs/ depots required				
9	Planning (including sanction, routes, location)	Works for all 698 trains needs to be sanctioned for this and subsequent period			

**ACTION PLAN : VISION 2020****DIRECTORATE : TELECOMMUNICATION****Date : 22.01.2010**

<b>Resources &amp; Planning for: Train Information Boards on running trains</b>					
		<b>Period</b>			<b>Strategy</b>
		<b>2010-11/2011-12</b>	<b>2012-13/2016-17</b>	<b>2017-18/2019-20</b>	
		<b>(11<sup>th</sup> Plan) 2 Yrs</b>	<b>(12<sup>th</sup> Plan) 5 Yrs</b>	<b>(13<sup>th</sup> Plan) 3 Yrs</b>	
1	Average quantum of work achieved in similar previous periods	-	-	-	
2	Quantum to achieve in 2020 vision	78 trains	620 trains		
3	Finance required	Rs. 34 Cr	Rs. 267 Cr		
4	Major material/Industrial inputs including M&P and technology	Trade Capacity Exists	Trade Capacity Exists	Trade Capacity Exists	
5	Major contracts/agencies to aligned	Routine Works/Store Contracts	Routine Works/Store Contracts	Routine Works/Store Contracts	
6	Major labour inputs to be organized including training	Upgradation of Telecom Facilities and Training for Telecom Staff at IRISSET & all zonal training schools. Trainers need to be developed.	Upgradation of Telecom Facilities and Training for Telecom Staff at IRISSET & all zonal training schools. Trainers need to be developed.	Upgradation of Telecom Facilities and Training for Telecom Staff at IRISSET & all zonal training schools. Trainers need to be developed.	
7	Major management inputs				
8	Major land inputs/ depots required				
9	Planning (including sanction, routes, location)	Works for all 698 trains needs to be sanctioned for this and subsequent period.			

**ACTION PLAN : VISION 2020****DIRECTORATE : TELECOMMUNICATION****Date : 22.01.2010**

<b>Resources &amp; Planning for: High Quality Train Information Display Boards at Stations</b>					
		<b>Period</b>			<b>Strategy</b>
		<b>2010-11/2011-12</b>	<b>2012-13/2016-17</b>	<b>2017-18/2019-20</b>	
		<b>(11<sup>th</sup> Plan) 2 Yrs</b>	<b>(12<sup>th</sup> Plan) 5 Yrs</b>	<b>(13<sup>th</sup> Plan) 3 Yrs</b>	
1	Average quantum of work achieved in similar previous periods	2 per Yr			
2	Quantum to achieve in 2020 vision	100 stn	550 stn		
3	Finance required	Rs. 75Cr	Rs. 425 Cr		
4	Major material/Industrial inputs including M&P and technology	Trade Capacity Exists	Trade Capacity Exists	Trade Capacity Exists	
5	Major contracts/agencies to aligned	Routine Works/Store Contracts	Routine Works/Store Contracts	Routine Works/Store Contracts	
6	Major labour inputs to be organized including training	Upgradation of Telecom Facilities and Training for Telecom Staff at IRISSET & all zonal training schools. Trainers need to be developed.	Upgradation of Telecom Facilities and Training for Telecom Staff at IRISSET & all zonal training schools. Trainers need to be developed.	Upgradation of Telecom Facilities and Training for Telecom Staff at IRISSET & all zonal training schools. Trainers need to be developed.	
7	Major management inputs				
8	Major land inputs/ depots required				
9	Planning (including sanction, routes, location)	Works for all 650 stations need to be sanctioned for this and subsequent period.			



## VISION 2020 (TELECOM)

### Action Plan For Telecom works for 'Technological Upgradation & Safety'

S.No.	Item	Unit	Vision 2020		Short Term Phase I		Long Term Phase 'II'		Long Term Phase 'III'	
			(2010-2020)		2010-12		2012-17		2017-20	
			Qty	Cost (Crore)	Qty	Cost (Crore)	Qty	Cost (Crore)	Qty	Cost (Crore)
1	Improvement of Control and Voice/Video communication to aid IT application across the IRs	RKM	20000	1000	2000	100	10000	500	8000	400
2	Satellite based Real Time Train Information System	Loco/MEMU/EMU	10000	85	6000	70	4000	15		
3	High Quality Train Information Boards at Adarsh stations	Stations	375	200	75	40	300	160		
4	Mobile Train Radio Communication	RKM	20000	1400	4000	280	10000	700	6000	420
5	Provision of OFC on Balance 15000 RKM on IRs	RKM	15000	600	2000	80	10000	400	3000	120
6	IP Based Train Control Communication	RKM	65000	552.5	5000	42.5	30000	255	30000	255
7	Replacement of overhead alignment	RKM	2700	162	1000	60	1700	102		
8	Voice Network Modernization	Exchanges	190	500	20	70	100	300	70	130
9	Broadband Internet Facility	Trains	698	1000	78	156	620	844		
10	Train Information Boards on running trains	Trains	698	301	78	34	620	267		
11	High Quality Train Information Display Boards at Stations	Stations	650	500	100	75	550	425		
	Investment Required		<b>Total</b>	<b>6300.5</b>	<b>Phase I</b>	<b>1007.5</b>	<b>Phase II</b>	<b>3968</b>	<b>Phase III</b>	<b>1325</b>