

DRAFT TERMS OF REFERENCE FOR THE CLUSTER NETWORK MANAGER

1. Background

1.1 Country and Sector Context

India is one of the world's largest and most dynamic emerging markets with vast economic potential. The objective of the Government of India's, 12th Five-Year Plan (FY2013–17) is to return to Gross Domestic Product (GDP) growth rates in excess of 8 percent, with a strong emphasis placed on the manufacturing sector. Manufacturing has long been recognized as an essential driver of economic development for most countries, as it has an important economic and employment multiplier effect. The manufacturing sector will have to play an important role in taking the Indian economy to a high growth rate trajectory and achieving the planned objectives.

Despite a strong potential, India's manufacturing performance has not been encouraging. The share of manufacturing in India's GDP has stagnated at around 16 percent¹, compared to more than 30 percent (and growing) in some of the other Asian countries. India's manufacturing sector has had to face other challenges, such as low value addition, low productivity, and less-than-desirable up scaling. However, there also exist world-class production units that compete in the international market, as observed in the automotive sector.

To realize this potential, the Government of India has set the objective of enhancing the share of manufacturing in India's GDP from its current level of 16 to 25 percent within a decade and creating 100 million additional jobs in the National Manufacturing Policy 2011.

The major constraints to the growth and competitiveness of India's manufacturing sector are well known and some of these are: difficulties accessing markets (including within India), difficulties accessing finance (especially for MSMEs), infrastructure deficiencies and difficulties for MSMEs to access technology and lack of skilled manpower. These constraints impact the competitiveness of MSMEs operating in both upstream and downstream manufacturing industries.

Upstream industries, such as the tooling industry, that consists of developing and manufacturing dies, moulds, casts, as well as testing and prototyping, serves as the interface between product design and product manufacturing. The right tools help increase throughputs, reduce material waste, improve product quality, time to market and thus improve competitiveness. The importance of the tooling industry increases with accelerating technological developments, product sophistication/ innovation/ customization and decreasing time to market. Despite this tooling is a local industry (more than 60 percent of tools in the world are locally produced and consumed – including in India) dominated by MSMEs (more than 80% of firms in India, Europe, US and Japan). As in other countries, the private tooling industry in India has grown hand in hand with the manufacturing industry. The turnover of the Indian tooling industry is approximately US\$3 billion, with more than a thousand firms employing over 120,000 workers (TAGMA 2011). The constraints to the growth and competitiveness of the Indian tooling industry mirror the ones affecting manufacturing as a whole, as articulated above. The scarcity of skilled workers and problems related to their retention, as well as the lack of access to a high-quality design and prototyping facility, has hurt growth.

In the downstream industries, such as automotive, electronics, fragrance and flavours, agro and allied industries, glass, leather, toys etc. also, there is a shortage of skilled labour and limited access to

¹ The Manufacturing Plan - Strategies for Accelerating Growth of Manufacturing in India in the 12th Five Year Plan and Beyond

advanced technologies. These industries include large numbers of MSMEs, often working as part of supplier networks of larger enterprises and subject to intense international competition in the connected world.

Demographic Challenges

While India stands to benefit from an immense demographic dividend, with the largest youth population in the world (around 66 percent of the total population is under the age of 35), it has an overall employment rate of 4.7 percent (under usual principal status approach) and an overall labour force participation rate of 50.9 percent². For the country to gain from this demographic dividend, skilling and up-skilling its youth are key priorities for the Government of India (GoI).

Out of the 470 million labour force in India, less than 10 percent has received any kind of skills training, either through formal or informal means³. About 13 million young people enter the labour force annually. Despite the huge expansion of skills training provision during the 11th Five-Year Plan, the country's skills development system requires massive up scaling. In its 11th and 12th Five-Year Plans, India recognized that skills development is critical to achieving faster, sustainable, and inclusive growth, on the one hand, and to providing decent employment opportunities to the growing young population, on the other. According to the National Skill Development Policy published in March 2009, India has set a target of skilling 500 million people by 2022⁴.

Global experience shows that a workforce with higher schooling and skill levels leads to higher productivity and personal income. A 2011 study showed that students who attended three-year vocational training courses at the Industrial Training Institute (ITI) earned 25 percent more than two-year course students, who earned 14 percent more than did one-year course students⁵. These results confirmed a 2007 study showing that the returns on vocational training in India have been found to be 8 percent, almost equivalent to the 8.4 percent related to an additional year of education. The same study showed that, increased educational attainment by one year is associated with 5.8 percent higher firm-level productivity in India⁶.

Against this backdrop, the Technology Centres System Program, a National Program that seeks to develop the technological and skill base of MSMEs and increase their business opportunities through new market linkages in selected manufacturing industries, via upgraded and new Technology Centres (earlier called Tool Rooms [TR] and Technology Development Centres) has been envisaged.

1.2 Institutional context

The MSME Ministry, through the Office of the Development Commissioner (O/o DC, MSME), currently operates eighteen Technology Centres (TCs): ten for the tooling industry and eight for other industries such as ESDM (electronics system design and manufacturing), designer & decorative glass, footwear & leather and fragrance & flavour etc. Half of these eighteen TCs are located in Low Income States (Uttar Pradesh, Madhya Pradesh, Odisha, Jharkhand and Assam). The list of the existing TCs is given below:

² According to the Report on the Third-Annual Employment & Unemployment Survey (2012 – 2013) of the Ministry of Labor, Government of India.

³ 11th and 12th Five Year Plan

⁴ <http://labour.nic.in/upload/uploadfiles/files/Policies/NationalSkillDevelopmentPolicyMar09.pdf>

⁵ Vocational Training in the Private Sector (Goyal 2011)

⁶ The Knowledge Economy and Education and Training in South Asia (world Bank 2007)

Existing Technology Centres of the Office of the DC, MoMSME

S.No.	Name	Focus sectors and services offered
1	Central Tool Room & Training Centre (CTTC), Bhubaneswar (Odisha)	Tooling, Precision Manufacturing and Training
2	Indo Danish Tool Room (IDTR), Jamshedpur (Jharkhand)	Tooling (specialization in Automotive) & Training
3	Central Tool Room & Training Centre (CTTC), Kolkata (West Bengal)	Tooling, Precision Manufacturing, ESDM & Training
4	Tool Room & Training Centre (TRTC), Guwahati (Assam)	Tooling & Training
5	Indo German Tool Room (IGTR), Aurangabad (Maharashtra)	Tooling (specialization in Automotive) & Training
6	Indo German Tool Room (IGTR), Indore (Madhya Pradesh)	Tooling (specialization in Automotive and Plastics) & Training
7	Indo German Tool Room (IGTR), Ahmedabad (Gujarat)	Tooling (specialization in Automotive and Plastics) & Training
8	Central Tool Room (CTR), Ludhiana (Punjab)	Tooling & Training
9	Central Institute of Hand Tools (CIHT), Jalandhar (Punjab)	Tooling (specialization in hand tools and agriculture implements)
10	Central Institute of Tool Design (CITD), Hyderabad, (Andhra Pradesh)	ESDM, Precision Manufacturing
11	Institute for Design of Electrical Measuring Instruments (IDEMI), Mumbai, (Maharashtra)	ESDM
12	Electronics Service & Training Centre (ESTC), Ramnagar (Uttarakhand)	ESDM and Training
13	Process and Product Development Centre (PPDC), Agra (Uttar Pradesh)	Foundry & Forging and Training
14	Process cum Product Development Centre (PPDC), Meerut (Uttar Pradesh)	Sports Goods and Training
15	Central Footwear Training Institute (CFTI), Agra (Uttar Pradesh)	Leather Footwear & Training
16	Central Footwear Training Institute (CFTI), Chennai (Tamil Nadu)	Leather Footwear & Training
17	Fragrance & Flavour Development Centre (FFDC), Kannauj (Uttar Pradesh)	Fragrance and Flavours & Agro and allied industries & Training
18	Centre for Development of Glass Industries	Designer and Decorative Glass and

S.No.	Name	Focus sectors and services offered
	(CDGI), Firozabad (Uttar Pradesh)	Training

Several of these were set up through support from German and Danish Government under bilateral agreements as well as with the United Nations Industrial Development Organization (UNIDO). These Technology Centres are largely self-sustaining entities that have been providing technical and vocational training programs to more than 1,00,000 trainees annually. Some of these include training programs certified by the All India Council for Technical Education (AICTE) and National Council for Vocational Training (NCVT). They also provide design and manufacturing support to entrepreneurs alongside technical consultancies.

The existing TC's, were set up between 1967 and 1999, primarily focus on improving access to technologies and providing technical advisory support for entrepreneurs in the given industry cluster they serve. These TCs also serve workers and youth by offering opportunities for hands-on technical training and skill development in varied trades with a view to improve employability and livelihood opportunities.

The key services offered by the TCs mainly include:

- i. Design & Manufacturing
 - Design & manufacturing of tools, dies, moulds and precision tools
 - Process development
 - Product development
- ii. Skill Development
 - Long & short term training programs
 - Areas include CAD, CAM, CNC, automation, RPT, mechatronics etc.
 - International, modular and customized programs
 - Student profile varies from HSC/SSC/10th passed outs, ITI passed outs to diploma holders and graduate engineers
- iii. Consultancy
 - Inspection & calibration facilities
 - Turnkey assignments
 - Course curriculum developments

All services are offered on fee basis at market/cost rates. In addition, the government of India offers various schemes/programs to subsidize the cost of services offered by the TCs to MSMEs.

1.3 About the Technology Centre Systems Program (TCSP)

The Program intends to upgrade and expand the network of Technology Centres which have as their mission to improve the competitiveness of MSMEs in key manufacturing industries across India— with a special emphasis on Low Income States. The Program will increase the capacity and incentives of TCs to support private sector actors (as opposed to competing with them) and will consult regularly with the private sector to ensure it is not being crowded-out.

Technology Centres provide an integrated suite of services to MSMEs on a fee basis, ranging from technical and management advisory to technical training of workers. The Proposed Program will reinforce the technical capability of the Technology Centres as well as their governance, by further increasing the participation of the private sector in key decisions at both the national and local levels. In particular:

- a. The proposed Program seeks to establish 15 new TCs and upgrade technology capabilities of existing TCs and develop linkages with Indian and international research institutes, leading manufacturers. The Program will connect leading practices that will contribute to innovation advanced technology, knowledge and innovation that can be transferred to MSMEs served by each TC, thereby creating an ecosystem that fosters manufacturing competitiveness through a national system of technology centers across the country.
- b. Second, building on the main strength of the current TCs, the proposed Program will complement and reinforce hundreds of public and private providers of vocational training (e.g. the ITIs, the Polytechnics and the ATIs), helping them to improve their curricula and training their trainers by placing more emphasis on learning and problem solving skills, and being more practical and adapted to local conditions and needs. To that end the proposed program will develop linkages between the TCs and the Training Institutes being set up by other ministries (e.g. Ministry of Labor). The development of such synergies and linkages will also be supported by existing World Bank programs aimed at improving vocational training in India.
- c. Third, the proposed Program will leverage and complement other programs supporting MSMEs and manufacturing clusters being implemented by various organizations in public and private sector.

The program will be partly financed through an IBRD Loan and State Governments will contribute land for setting up new TCs. The proposed program will include the following three components:

Component 1: Technical assistance to the existing and new Technology Centres

The objective of this component is to ensure that TCs have access to technical assistance that will help them serve their cluster of MSMEs better. This will be achieved through internationally competitively recruited Technology Partners (TPs), Cluster Network Managers (CNMs) and an IT Platform service provider.

Sub Component 1.1: Technology Partner

The Technology Partners (TPs) for each system of TC will specialize on specific industries/technologies and provide inputs to the TC on leading practices and techniques in proven and latest manufacturing technologies that can be adapted to the Indian MSME context. It is expected that the TPs will work closely with the TCs in engaging with the cluster(s) of MSME the TCs serve including OEMs and large manufacturing enterprises, in shaping the future technology road map. The TP in conjunction with other stakeholders of the TCSP identify and define globally competitive technological capability required in the cluster and assist the TC in building this capability by planning and handholding this roll out. The TP will support in identifying equipment, machinery and technical requirements to upgrade the existing TCs and in fitting out the 15 new TCs. It is expected that the TP with its international experience shall help the TC augment its service portfolio keeping in view the identified/focused technologies including updating existing offerings for training, skill development, production, equipment utilization and technical advisory. The TP will also support TCs increase efficiency and competitiveness through planned initiatives.

Subcomponent 1.2: Cluster Network Manager

Cluster Network Managers (CNMs) for each System (or sub System) of TCs will specialize on specific geographic cluster(s)/ industry(s). The Cluster Network Manager (CNM) will build capacity of the TC to enhance economic development cooperation amongst key stakeholders to improve the competitiveness of the cluster. This will include strengthening market linkages of the TCs with the

MSMEs in the cluster it serves, trade and industry associations, academia, educational institutions, applied research institutions, service providers, other government support institutions, workers and skill seekers.

The CNM would seek to increase competitiveness of supply chains of large firms by enhancing quality, reliability and productivity of MSME suppliers by offering services of the TC, thus also helping in meeting revenue targets of the TC. The CNM will enhance the competitiveness of the cluster business environment by establishing a network of service providers which will address the needs of the MSMEs not served by the TC e.g. access to a network of financial services. The CNM will also facilitate closer cooperation between the TC and MSMEs with key innovation stakeholders such as applied research institutes, autonomous institutions such as IISc, CSIR, academia, skill seekers, and students etc. to enhance product and process innovation. TC's capacity will be further enhanced through closer cooperation amongst skills development and labour market stakeholders to increase the number of workers/ trainees from TCs finding long term employment to improve their livelihood.

Subcomponent 1.3: National Portal Service Provider (NPSP)

This component will support a National Portal (NP) for MSMEs, with the vision of "creating a vibrant, interactive, self-sustainable technology platform for the needs of stakeholders of MSME for collaboration, information dissemination, and transactions". The platform will act as a common platform for information dissemination, services and support across many aspects of business that will be required by an MSME from the start of their business, to successful operations and growth e.g. access to regulatory services for entrepreneurs, assistance for financing, access to list of suppliers etc. Through the National Portal, users will also be able to access (virtually) to most of the technical information and training services provided by the TCs. This platform will extend the reach of the program to beneficiaries well beyond the TCs' physical location through access to e-learning solutions, B2B service & product market place, e-recruitment portal and e-governance services (grievance redressal forum). In addition the National Platform will also include the Monitoring and Evaluation Platform for the TCSP program and ERP solutions for the Technology Centres.

Component 2: Investments to develop new and upgrade existing Technology Centres

The Program will finance the development of 15 new TCs and upgrade the 18 existing TCs under the responsibility of the MSME Ministry. The development of new TCs will be phased with the first new TC development likely to commence in 2014 and construction of all new TCs likely to complete by 2018. The investments in upgrading and building new would be based on the DPR prepared by the Program Management Unit on behalf of the O/o DC, MSME with inputs from stakeholders including the Technology Partners and Cluster Network Managers. The DPR will be approved by the PSC and will be informed to the World Bank by updating the procurement plan.

The land for the new centers will be provided by the State Governments and many State Governments have already responded positively to this program.

Sub-component 2.1: Buildings/ other infrastructure

The physical facilities of the TCs will be upgraded and developed with the following objectives in mind:

- Eco-friendly design
- Cost optimization
- Flexibility with respect to usage and future expansion/contraction

- Ensure a healthy and safe environment and user-friendly buildings for the people who work or get trained

The construction is expected to start in the second year and likely to complete by the fourth year of program implementation. A typical new TC may have the following pattern:

- Main institute building (including manufacturing, training, administration and other facilities): 15,000 sqm
- Hostel and residential facility (for around 600-700 students): 5,000 sqm

Sub-component 2.2: Equipment/Software

The equipment required to upgrade the existing TCs and develop the new ones will be purchased based on the DPRs prepared by the Program Management Unit with input from the Technology Partner and Cluster Network Manager and also inputs of concerned sector JWG. The advice/vetting of the Technical Partners and Cluster Network Managers will be taken once they are on board/contracted. One of the key considerations would be to identify equipment and software that is in line with the technology roadmap the TC plans to embark to support its cluster. Adequate attention needs to be provided to upgrade and build technology capabilities for the future but should be proven and fit the context of the cluster and its geography at the same time.

Sub-component 2.3: Operating costs of new Technology Centers

The Government of India (through TCs and the MoMSME) will finance 100% of the operating costs of the 15 new TCs to make them fully operational and financially self-sustainable expected within four to five years of their launch, depending on the location and sector of the TC.

Component 3: Technical assistance to the MSME Ministry for Program implementation and Monitoring and Evaluation

Sub-component 3.1: Project Management Unit

The program will be implemented with a support of a dedicated Project Management Unit

Sub-component 3.2: Small dedicated program management team

A dedicated team consisting of the National Program Manager, a Procurement Expert, and a Financial Management Expert will be appointed during the program implementation phase. Based on the suggestions of the PMU, it has also been agreed that an Information Technology Expert will be part of this team that supports the National Program Manager. This team will report into the Program Coordinator of the O/o DC, MSME and will act as the interface between the Program Management Unit and the Program Coordinator. The Program Coordinator, the PMU and the National Program Manager and his team will form the Program Implementation Unit (PIU).

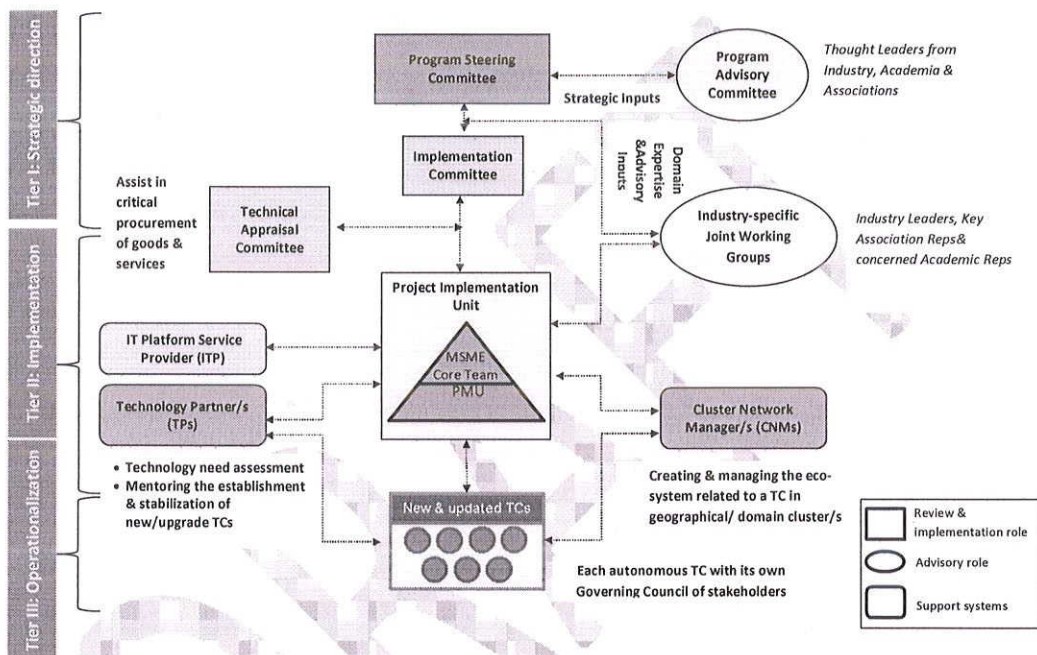
Sub-component 3.3: Other technical assistance to the Office of DC-MSME and the MSME Ministry

This will include capacity building and change management for the O/o DC, MSME and support to carry out in-depth impact evaluation studies, by O/o DC, MSME in consultation with the World Bank. Other technical assistance for the program, as and when required, will be provided under this sub-component.

The M&E system will include in particular independent surveys of customers and stakeholders (including potential private competitors to the TCs) to conduct the impact evaluation and assess the transformative impact of the program as well as to ensure there is no significant crowding-out of the private sector.

The governance structure for the program is illustrated in Figure 1. Three tiers serve the different roles of: Strategic inputs, Implementation and Execution.

Figure 1: Technology Centre Systems Program: Governance Framework



2. Role of Cluster Network Manager

O/o DC, MSME intends to hire Cluster Network Managers for 5 packages of Technology Centres:

Cluster Network Manger Package 1 (M1):

- Indo German Tool Room (IGTR), Aurangabad (Maharashtra)
- Indo German Tool Room (IGTR), Indore (Madhya Pradesh)
- Indo German Tool Room (IGTR), Ahmedabad (Gujarat)

In addition, there will 3-4 new TCs that will be included in this package.

Cluster Network Manger Package 2 (M2):

- Central Tool Room & Training Centre (CTTC), Bhubaneswar (Odisha)
- Indo Danish Tool Room (IDTR), Jamshedpur (Jharkhand)
- Central Tool Room & Training Centre (CTTC), Kolkata (West Bengal)

- Tool Room & Training Centre (TRTC), Guwahati (Assam)

In addition, there will 2-3 new TCs that will be included in this package.

Cluster Network Manager Package 3 (M3)

- Central Institute of Hand Tools (CIHT), Jalandhar (Punjab)
- Process and Product Development Centre (PPDC), Agra (Uttar Pradesh)
- Electronics Service & Training Centre (ESTC), Ramnagar (Uttarakhand)

In addition there will be 2-3 new TCs that will be included in this package.

Cluster Network Manager Package 4 (M4)

- Fragrance & Flavour Development Centre (FFDC), Kannauj (Uttar Pradesh)
- Central Footwear Training Institute (CFTI), Agra (Uttar Pradesh)
- Process cum Product Development Centre (PPDC), Meerut (Uttar Pradesh)
- Centre for Development of Glass Industries (CDGI), Firozabad (Uttar Pradesh)

In addition there will be 2-3 new TCs that will be included in this package.

Cluster Network Manager Package 5 (M5)

- Institute for Design of Electrical Measuring Instruments (IDEMI), Mumbai (Maharashtra)
- Central Institute of Tool Design (CITD), Hyderabad (Telengana)
- Central Footwear Training Institute (CFTI), Chennai (Tamil Nadu)

In addition there will be 2-3 new TCs that will be included in this package.

2.1 Objectives of Assignment

The Cluster Network Manager (CNM) is required to enhance economic development cooperation of key stakeholders to improve cluster competitiveness. This includes strengthening the market linkages of the TCs with the MSME clusters they serve, trade and industry associations, the academia, educational institutions, business development service providers, other government support institutions, regulatory authorities, workers and skill seekers. The CNM would work towards the following key objectives:

- Increase of business opportunities for MSMEs through new market linkages.
- Increase competitiveness of supply chains of large firms by enhancing the quality, reliability and productivity of MSME suppliers.
- Increase the number of MSMEs utilizing the services of TCs resulting in increase in revenues of TCs by marketing and promotion of TCs
- Enhance competitiveness of the cluster business environment :
 - Increase access of MSMEs to a network of business development services (BDS) which address their needs and are not covered in the domain of the TCs
 - Increase access of MSMEs to network of financial service providers
 - Increase awareness of opportunities in the public sector to contribute to a more competitive business environment.
- Establish closer cooperation of key innovation stakeholders to enhance product and process innovation. This would include linking the research agendas of applied research and education institutes/organizations to industry requirements and promoting joint research and development projects.

- Facilitate closer cooperation amongst skills development and labor market stakeholders, to increase the number of workers/ trainees being trained at the TCs, in finding long term employment to improve their livelihood.
- Establish a business model which ensures financial self-sustainability of the CNM before the end of the TCSP funding period.
- Increase awareness amongst stakeholders on Environmental, Health and Safety (EHS) requirements, including those related to reducing health/pollution risks, increasing resource efficiency (towards improving business efficacy) and adhering to applicable regulations/rules.

All investment decisions (technological and other) and work prioritization in TCs must be intrinsically connected with the market place and efficiently translate market needs to products and services that (satisfy these needs), and will be enabled by technology and enriched by global knowledge and expertise of the various stakeholders including the CNM, empowered by global networks and people.

The Cluster Network Managers will be mandated to contribute to the above objectives by providing support for each system (or sub system) of TCs specialized on specific industries/clusters. This will include:

- TC advisory* – conduct needs assessment of MSMEs in the clusters served by the TCs and help TCs develop and implement a strategy based on identification of opportunities and needs of the industrial clusters it will support (in partnership with the Technology Partners).
- Cluster advisory* – this will include assistance to industrial clusters supported by TCs in identification of common opportunities (new markets, technology upgrading, innovation) as well as addressing impediments (policy, infrastructure, access to finance, compliance to regulatory requirements etc.). Make aware the MSME beneficiaries about the schemes of Ministry of MSME and other relevant Ministries/Departments for availing benefits to improve their competitiveness.
- Development of linkages across the TCs' ecosystem* –help TCs serve the needs of the industrial clusters including assistance in developing partnerships with vocational training providers, linking with research institutes and leading manufacturers.

2.2 Scope of work of the consultant

The primary role of the Cluster Network Manager, who will be appointed for a period of 6 years, is to facilitate improved economic development cooperation of cluster stakeholders to realise improved competitiveness. The MSME cluster shall be kept in continuous dialogue with its market and is strengthened through support via strategic partnership with external partners like industry, academia, and advisors. The interaction among the TCs, the market and strategic partners is established and organised by a cluster network manager.

The clusters requiring network managers are those served by the Technology Centres (TCs). There are 18 existing TCs and 15 new TCs being established. Cluster facilitation will start at the existing 18 TCs, and then expand to a total of 33 clusters as the new TCs become operational. Clusters in different locations in the country, focussing on the same sector, should cooperate systematically.

The focus of cluster facilitation will initially be on the innovation system according to the strengths of the TCs and this program. Once cluster collaboration in the innovation system is well established, the

scope of cluster collaboration will expand to include identification of other common opportunities (such enterprise development, infrastructure, access to finance, policy and so forth.) This phased approach and timescale is illustrated in Table 1.

Table 1: Sequence of activities in timescales

	TCSP program duration					Subsequent	
	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Year 7 and beyond
18 existing TCs	Phase 1: Establish innovation system cluster			Phase 2: Expand scope		Phase 3: Self-sustained continuation	
15 New TCs			Phase 1: Establish innovation system cluster	Phase 2: Expand scope		Phase 3: Self-sustained continuation	

Envisaged scope of work Phase 1: Formalizing and strengthening the MSME cluster Innovation system

The cluster network manager will be required to provide cluster and market development thought leadership, innovative thinking and pragmatic implementation of work proposed, to meet or exceed the stated objectives. The task requires the CNM to work closely with the MSME clusters to understand their requirements and get OEMs/ buyers involved in the program. The envisaged scope of work in phase 1 will include:

- Assisting industrial clusters supported by TCs to:
 - Comprehensively diagnose the existing cluster situation and market prospects over medium and long term, as well as identify systemic competitiveness constraints with respect to access to technology, access to skills and access to business advisory services.
 - The diagnostic will further lead to identifying common opportunities (new markets, technology upgrading and innovation) as well as addressing impediments (policy, infrastructure, access to finance, compliance to regulatory requirements etc.).
 - Consolidating the results and recommendations of the diagnostic into a strategic plan for cluster development, keeping in mind the objectives of the TCSP.
 - Structure the MSME innovation system (including skills development system) with regard to content and governance by explicitly defining the cooperation between the MSMEs, TCs, industrial partners, academia, and external advisors.
 - Establish linkages between research and development organizations, clusters and the TCs and alignment of the work closer to market demand.
 - Systematically strengthen and deepen intra-cluster cooperation in prioritized initiatives.
 - Facilitate access to funding for the cluster development initiatives.
- Assisting MSMEs to:

- Identify through benchmarking, the impediments to the growth of individual MSMEs and clusters and use same data for the M&E system.
- Easily access available support services.
- Establish linkages to supply chains of larger firms, preferably in export value chains.
- Strengthen competitiveness to qualify for the work from these large firms.
- Assisting TCs to:
 - Develop and implement a strategy based on identification of opportunities and needs of the industrial clusters it will support (in partnership with the Technology Partners).
 - Develop linkages and partnerships with vocational training providers, research institutes (like IISc, CRRID), leading manufacturers and international thought leaders to strengthen the capacities of TCs with regard to manufacturing services and training.
 - Become a reference model of manufacturing excellence for the MSMEs, with regard to organization and technology, on an internationally competitive level.
 - Market and promote the range of services to increase the utilization of TCs.
- Assisting other stakeholders such as:
 - Other government agencies (central and state governments) engage in the relevant identified sectors (e.g. automotive, electronics, fragrance and flavors, agro and allied industries, glass, leather, toys etc.)
 - Applied research institutes to help commercialize the prototypes
 - Financial institutions to market their products to MSMEs
 - Other ministries and departments to create awareness/dissemination of information about schemes/policies
 - Marketing agencies to help extend their services to the clusters
 - Others stakeholders who form a part of the MSME ecosystem such as chartered accountant, company secretary, logistic providers
 - Government agencies (central and state) and industry in improving EH&S performance of the MSMEs
- Planning and establishing revenue streams towards CNM self-sustainability.

Envisaged additional scope of work in phase 2: Expanding the scope of cluster activity

- Assisting industrial clusters supported by TCs to:
 - Strengthen the competitiveness of the local business environment by targeted improvement of support services offered by TCs, Business Development Services (BDS) providers and financial service providers.
 - Reduce impediments to cluster competitiveness in partnership with other public- and private-sector stakeholders (policy, infrastructure, red-tape, etc.).
- Assisting MSME to:
 - Objectively benchmark their individual firm competitiveness to identify competency improvement priorities and link to associated learning opportunities.

- To develop dynamic organic linkages across stakeholders (even beyond the boundaries of the clusters) to take advantage of best practices of public and private institutes.
- Develop the CNM business and revenue models for self-sustainability and successfully implement them.

Envisaged additional scope of work in Phase 3: Self-sustained continuation

Cluster network manager activities are deemed self-sustainable when income exceeds expenditure whilst maintaining high CNM service levels.

2.3 Detailed scope of work of a CNM for a system of TC

Each Cluster Network Manager package will comprise of a suitable and experienced team of Cluster Network Managers to facilitate cluster and market development. The main responsibility is establishing and expanding cluster development activities served by the Technology Centres (TCs). Cluster facilitation will start at the existing 18 TCs, and then expand to a total of 33 clusters as the new TCs become operational.

The focus of cluster facilitation will initially be narrow on the innovation system, according to the strength of the TCs and this program. Once cluster collaboration in the innovation system is well established, the scope of cluster collaboration will expand to include identification of other common opportunities (such enterprise development, infrastructure, access to finance, policy and so forth.) This phased approach is proposed for all clusters served by the existing and new TCs, consisting of:

- Phase 1: Formalizing and strengthening the MSME cluster Innovation system (includes skills),
- Phase 2: Expanding to the full scope of cluster development to improve competitiveness of value chains and the business environment, and entrenching a business model for continuation after TCSP
- Phase 3: Self-sustained continuation after the TCSP funding period.

Consultants are required to propose their own approach and methodology to achieve or exceed the set objectives. Cluster effectiveness requires appointing high quality cluster managers, so the Consultant's proposed approach for these positions is critical. The approach should clearly articulate recruitment processes, the type of person sought and the support and training managers could receive to further develop themselves and their clusters. This proposed methodological approach will be central to the evaluation of Consultants' understanding and vision for the TCSP program. The activities detailed below are indicative of what is expected, but should not be deemed mandatory.

Phase 1: Formalizing and strengthening the MSME cluster innovation system

The scope of work in this phase is deliberately limited to focus around the strengths of the TCs. Many opportunities for improvement are already apparent, such as those listed in the table below.

Skilled workers	Technology	Business advisory (limited)
- Course / Curricula Development	- Production Process Improvement - Product	- As a manufacturing facility, TC to become a reference model of excellence for the MSME industry, with regard to organisation and

<ul style="list-style-type: none"> - Trainer's Training - MSME Work Force Training - Student's Training - Student Placements 	<ul style="list-style-type: none"> Development - Testing & Calibration - Applied Research and Development - Prototype Development 	<ul style="list-style-type: none"> technology on an internationally competitive level. - Supplier development - Information and referrals about trusted business development services (BDS) and financial services
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The intent is to improve economic development cooperation in these areas before expanding the scope of cluster activity to include other factors determining cluster performance (Phase 2). Phase 2 will proceed once effective cooperation around these focal areas are realised and stabilised.

Phase 1 Activity 1: Gain stakeholder commitment

The CNM would be required to mobilise cluster stakeholder participation and support. It will be critical from the outset to work closely with the MSME clusters to understand their needs and requirements and get OEMs/ buyers involved in the program. Gaining commitment would include soft interventions that involve creating of awareness among MSMEs and large units in the cluster regarding the benefits of engaging with the TCs and sharing the overall vision of the TCSP. This would include explaining the benefits of the TC system and how to exploit existing externalities for the collective good of the cluster. Participation by and dialogue with MSME, industry associations, workers, academia and academic institutions (both public and private) would be a key requirement to develop a shared vision and to gain commitment towards cluster participation in this program. The CNM would be expected to focus efforts towards synergizing individual cluster actors into a vibrant collective unleashing the power of cooperation to sustain the benefits of this program and in shaping the improvement of the competitiveness of the cluster.

Sub -Activities:

- Identify the key stakeholder organizations in the cluster and their leaders.
- Prepare a marketing plan for each TC to have clear picture on current and potential services along with implementation roadmap.
- Engage the leadership of key stakeholders to gain their commitment to the process.
- Promote cluster participation by matching vision of cluster to address needs.
- Gain commitment to participate in cluster activities.
- Provide a business case for inclusion of key representatives from the cluster to be included in the Governance structure of the TC. This includes recommendations on improving efficacy of governance structures.

As a result, key cluster stakeholders must support and actively participate in the new clustering initiative.

Deliverables:

- Stakeholder map

2. Register of cluster members
3. Business case for key cluster representatives to be included in the TC governance structure.
4. Marketing plan for each TC.

Stakeholder group	Participation
OEMs / large buyers	Identify leading OEMs / large buyers (cluster target market) and gain their commitment
MSMEs	Identify cluster representative bodies and engage leadership structures to gain commitment
Vocational Training Institutes/ ITIs/ Polytechnics	Identify leading relevant education and skills development organisations and gain their commitment
TCs	Gain trust and commitment of TC leadership
Other BDS & financial service providers	Identify other support institutions important to development of this cluster innovation system (incl. skills) and gain commitment of their leaders
Other government institutions	Identify other government institutions important to development of this cluster innovation system (incl. skills) and gain commitment of their leaders
TCSP	Gain trust and commitment of TCSP leadership

Phase 1 Activity 2: Cluster diagnostic, baseline and planning

The CNM would be required to conduct a detailed diagnostic study that puts together the important general characteristics of the cluster such as its dispersion, size and the resulting density, the scale of operations among the constituent MSME units, the nature of the cluster, the markets it caters to, and the various inputs that it requires. As a part of this diagnostic study, it is also expected that the CNM will clearly identify the issues in implementing the EH&S measures. This diagnostic study would comprehensively assess the existing externalities, the market prospects over the medium and long terms as well as constraints with respect to access to technology, access to skills and access to business advisory services.

The cluster would need to be comprehensively studied and a strategic plan for cluster development keeping in mind the objectives of the TCSP would have to be developed. The plan would include selection of appropriate interventions as well as prioritization of these interventions. This plan needs to include definition of the specific market and the strategic partners that the cluster has to continuously interact with to succeed. Common opportunities (new markets, skills and technology upgrading, innovation) as well as impediments thereto (policy, infrastructure, access to finance etc.) must be identified. This phase limits the scope of improvement to focus on improved access to skilled workers, technology, product and process innovation support (incl. accreditation) and R&D. Improvement programmes/initiatives need to be prioritised and clearly defined, including the capacity (persons or institutions) and resources committed to execute these initiatives with certainty.

This study would also validate and capture the baseline data required to monitor the progress of the outcomes of the TCSP at a cluster level. For this purpose published sources of data that can serve as baseline will be provided to the CNM, by the O/o of DC, MSME.

Sub -Activities:

- a. Conduct a detailed diagnostic study to develop an in-depth understanding and assessment of cluster, its market, its competition and the business environment.
- b. Study all relevant GoI schemes/programs (pertaining to central/state governments) to see how they can be leveraged for use by TCs/ MSME units and submit a report on the same to the O/o DC, MSME.
- c. Benchmark the management practices and associated performances, including EH&S aspects, of a sample of MSME to raise their competency consciousness and to determine their priority learning needs. Use this information also as baseline data for key results indicators of TCSP outcome and impact.
- d. Engage targeted OEMs/buyers specifically to determine demand trends and requirements for doing business with MSMEs.
- e. Engage and leverage the insight and experience of stakeholders groups by means of participatory planning.
- f. Develop a strategic plan with a schedule of improvement programmes consisting of pragmatic initiatives. These programmes/initiatives should address specific needs/opportunities jointly identified and prioritized in conjunction with the industry associations.
- g. Include a MSME supplier development program to capacitate more MSME to qualify as suppliers to larger firms.
- h. Derive and identify the required strategic partners (including TC) for successful execution.
- i. Obtain endorsement by Industry Associations of the needs assessment, strategy, programs and planned initiatives.
- j. Identify key EH&S issues for the particular cluster

As a result, the market and business environment of the MSME Innovation Cluster has been analysed and all the relevant parties for future strategic partnerships and other participation have been identified. Cluster stakeholders support the plans which they endorsed for joint implementation.

Deliverables:

5. Detailed diagnostic study of cluster, its market, its competition and the business environment.
6. Report on all relevant Central and State government schemes and how they can be leveraged by MSME units
7. Industry Association endorsed strategic plan for cluster innovation system development (covering EH&S aspects as well), including action plan
8. Baseline data for key results indicators
9. Benchmark/list the EH&S requirements for the cluster

Stakeholder group	Participation
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Stakeholder group	Participation
OEMs / large buyers	<p>Engage and leverage the insight and experience of leading OEMs / large buyers for the study, shape recommendations and build shared ownership of outcomes.</p> <p>Identify opportunities and prioritise pragmatic initiatives to contribute to strengthening and growth of the OEMs, MSME supplier base and to improve the supply of skilled human resource.</p>
MSME	<p>Engage and leverage the insight and experience of the leaders of MSME cluster representative bodies for the study, shape recommendations and build shared ownership of outcomes.</p> <p>Identify market opportunities for MSME to qualify as suppliers to OEMs</p> <p>Assessment of the MSMEs associated needs. Prioritise pragmatic initiatives to enable more MSME to qualify as suppliers to OEMs, and to improve access to technology and skilled human resource.</p>
Vocational Training Institutes/ ITIs/ Polytechnics	<p>Engage and leverage the insight and experience of leading Vocational Training Institutes/ ITIs/ Polytechnics to shape recommendations and build shared ownership of outcomes. Identify and prioritise pragmatic initiatives to improve cooperation for mutual benefit.</p>
TCs	<p>Engage and leverage the insight and experience of the TC leadership, to design and develop solutions to offer MSMEs in a prioritized manner</p> <p>Identify opportunities to increase the value of TCs' business generated with support of Cluster Managers.</p> <p>Develop and implement a strategy based on identification of opportunities and needs of the industrial clusters it will support (in partnership with the Technology Partners).</p>
Other BDS & financial service providers	<p>Engage and leverage the insight and experience of relevant BDS and financial service providers, to understand the capabilities and solutions to be offered to MSMEs. Identify and prioritise pragmatic initiatives to improve cooperation for mutual benefit.</p>
Other government institutions	<p>Engage and leverage the insight and experience of relevant government institutions to understand various schemes and policies impacting the MSMEs. Identify and prioritise pragmatic initiatives to improve cooperation for mutual benefit.</p>
TCSP	<p>Engage and leverage the insight and experience of the TCSP program teams and steering committee members to</p> <ul style="list-style-type: none"> ○ Identify opportunities for improved cooperation by Program Steering Committee represented institutions for mutual benefit. ○ Inputs on equipment, curriculum for training to be provided to the TP. Inputs on functionality and services to be offered by National

Stakeholder group	Participation
	Portal to be provided to NPSP.

Phase 1 Activity 3: Define the cluster core competence fields

The CNM would be required to develop the required competence fields for the MSME innovation cluster, to perform better. This will be based on the determinants of success identified in the diagnostic study and the stated requirements of OEMs/large buyers, in terms of cluster competencies to scale up. The competence fields of the MSME Innovation Cluster - manufacturing organisation, manufacturing technology, and training require definition, in terms of sizing and articulation of requirements in terms of inputs i.e. equipment, technology, capabilities and skills.

The CNM would also be required to engage with industry associations to facilitate endorsing of technology strategies/roadmaps developed by TPs. The CNM would then be required to work closely with the TP and provide the necessary inputs to the TP in identification and finalising the bill of quantities that need to be procured for upgrading existing TCs and setting up new TCs. The CNM would also be required to seek information technology related support required by MSMEs and the same would have to be provided to the NPSP to ensure the functionality of the National Portal addresses the same.

Sub -Activities:

- a. Definition of competence fields.
- b. Detailing of competence fields.
- c. Evaluate the status quo of the capability of the TCs in all these competence fields.
- d. Assign lead roles for competence fields to the most competent TCs or partner organizations.
- e. Provide inputs on equipment, curriculum for training to the Technology Centers and Technology Partners.
- f. Provide inputs on IT functionality as well as services to be offered by National Portal
- g. Engage industry association to endorse technology strategies/ roadmap developed by TPs.

As a result, the structure of the cluster's innovation system is defined with regard to content and the status quo of the capability of the TCs in all competence fields is evaluated. In addition, the roles for the development of competence fields are assigned to certain TCs based on their specific capability.

Deliverables:

10. Detailed competence fields for the four cluster dimensions of manufacturing technology, manufacturing organization, product groups and training defined.
11. Lead roles to competence fields that have the potential to be efficiently addressed, assigned to TCs.
12. Inputs on equipment, curriculum for training provided to the TP.
13. Specification of required IT functionality and as well as services to be provided by the National Portal

Stakeholder group	Participation
OEMs / large buyers	Verify the defined competence fields for the four Cluster dimensions of manufacturing technology, manufacturing organisation, product groups and training
MSME	Detailed competence fields for the four Cluster dimensions of manufacturing technology, manufacturing organisation, product groups and training defined
Vocational Training Institutes/ ITIs/ Polytechnics	Detailed competence fields for the four Cluster dimensions of manufacturing technology, manufacturing organisation, product groups and training defined
TCs	Lead roles to competence fields that have the potential to be efficiently addressed, assigned to TCs.
Other BDS & financial service providers	Unique product/solution offering w.r.t. cluster competency identified
Other government institutions	Unique programs with specific quick implementation objectives can be developed
TCSP	Inputs on equipment, curriculum for training to be provided to the TP. Inputs on functionality and services to be offered by National Portal provided to NPSP. TP Technology strategies/ roadmap endorsement process facilitated.

Phase 1 Activity 4: Define the cluster interaction mechanisms

The CNM would be required to define the interaction between all parties and should position itself in the operational function for the cluster. This requires explicitly defining the cooperation processes, knowledge management interaction and the cluster management role. The interaction mechanisms are integral to the cluster's success as it describes the framework for operative execution of collaboration as well as exploitation of the full potential of synergies offered by the TCs and strategic partners.

Sub -Activities:

- Develop the partnership models – purpose, performance, functions and roles.
- Define the operative interaction within the cluster – process flow, responsibilities, information flows and knowledge management.
- Define the cluster governance function.
- Derive the cluster management function.

As result of this, all interaction mechanisms of the MSME Innovation Cluster have been specified, including the partnership operational and management roles and responsibilities.

Deliverables:

14. Specific partnership models that define the relation between all parties in the MSME Innovation Cluster.
15. Detailed operative interaction mechanisms with regard to competence field specified collaboration, knowledge management and further interaction platforms.
16. Defined tasks and costs for the development and execution of the cluster management function as organizing party of the MSME innovation cluster.
17. Recommendations on cluster representation in the TC governance structure.

Stakeholder group	Participation
OEMs / large buyers	Roles, partnerships and associated responsibilities defined. Cooperation processes and Knowledge Management Interaction defined.
MSME	
Vocational Training Institutes/ ITIs/ Polytechnics	
TCs	
Other BDS & financial service providers	
Other government institutions	
TCSP	

Phase 1 Activity 5: Develop a road-map for implementation

The CNM would be required to develop the road-map of sequential activities and milestones, which has to be followed to launch the MSME Innovation Cluster. The road-map will therefore unpack the work required to realise the strategy and structure of the cluster innovation system defined in the previous two activities.

Sub -Activities:

- Definition of the Road-Map (which includes key milestones)
- Detailing of phases of the Road-Map (which includes all critical steps)

As a result, all measures that need to be addressed to launch the cluster innovation system are described. Thereby the entirety of steps within this project, until the actual start of operations of the cluster is detailed.

Deliverables:

18. Detailed road-map defining all phases to enable the successful launch of the MSME Innovation Cluster

Stakeholder group	Participation
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Stakeholder group	Participation
OEMs / large buyers	Road-Map for cluster Implementation available.
MSME	
Vocational Training Institutes/ ITIs/ Polytechnics	
TCs	
Other BDS & financial service providers	
Other government institutions	
TCSP	

Phase 1 Activity 6: Launch, formalise and manage the cluster

The CNM would be required to organise, launch, operate and manage the MSME cluster innovation system formally. This includes cluster creation/formalisation, organisation, promotion, facilitation of cooperation, institutional administration and periodic engagement.

Sub -Activities:

- Implement the MSME cluster innovation system roadmap to launch the cluster.
- Organize and manage the specified stakeholder collaboration, knowledge management and further interaction platforms.
- Cluster institutional administration to ensure legal compliance, financial accountability and clean governance.
- Promote greater cluster participation by increasing awareness, affinity and trust within the cluster and with strategic partners.
- Market and promote greater use of TC services by increasing awareness, affinity and trust in TCs.
- Provide constant feedback to TCs about improvement opportunities regarding their business models and organization.
- Promote and utilize IT systems (including the national portal) to keep cluster stakeholders informed and interested.
- Market the MSME National Portal
- Monitor progress and report to PMU on project activities.
- Report value addition in key result areas to keep stakeholders informed and for M&E purpose.

As a result, the MSME innovation cluster collaboration will commence and grow, according to defined areas of collaboration, utilising the interaction mechanisms established.

Deliverables:

19. A legally constituted and practically functional cluster network management organization.
20. Legal compliance documentation.
21. Cluster administration records.
22. Cluster marketing and brand building campaign.
23. Promote and Utilize available IT systems (including the National Portal) for sharing of information, promotion of the cluster and electronic interaction amongst cluster stakeholders.
24. Update and revise the marketing plan for each TC including success stories (case studies) that propagate the success of the TC system.
25. Monthly, quarterly and annual reports to TCSP and cluster governance structure.
26. Quarterly feedback on progress to stakeholders.
27. Cluster annual sustainability report for stakeholders.

Stakeholder group	Participation
OEMs / large buyers	Cluster organisation is available and easily accessible. Regularly receive updates on cluster plans, events and progress.
MSME	
Vocational Training Institutes/ ITIs/ Polytechnics	
TCs	
Other BDS & financial service providers	
Other government institutions	
TCSP	

Phase 1 Activity 7: Facilitate implementation of cluster programmes/initiatives

The CNM would be required to facilitate partnership formation and economic development cooperation according to plans developed, to improve cluster performance in areas such as:

Technology:

- Production Process
- Product Development
- Testing & Calibration
- R&D

Skilled workers:

- Course / Curricula Development (includes alignment of educational institutes and academia to facilitate industry relevant skill development)
- Trainer's Training
- MSME Work Force Training
- Student's Training

- Student Placements

Business advisory (initially limited):

- Supplier development
- Information and referrals about trusted BDS and financial services

Cluster collaboration activities are not limited to improvement of the supply of and access to these services. Increasing demand for use of these services is key to ensuring the acceptability of approach.

Sub -Activities:

- Extend the benchmark of management practices and associated performances to more MSMEs in cluster to raise their consciousness and to determine their priority learning needs. Use this information also for monitoring and evaluation activity 8.
- Use the insights of the benchmarking to provide ongoing support to firms with multiple interventions / transactions. Identify the more competent and forward looking MSMEs to start working with. Support them to learn quickly so that they show case for others to follow.
- Initiate collaborative initiatives to respond to cluster learning needs and associated opportunities.
- Develop new partnerships for mutual benefit around identified programmes / initiatives.
- Develop the business cases and secure funding for cluster programme/ initiatives from relevant GoI schemes/programs and other sources.
- Encourage all stakeholders in the cluster to also utilize relevant GoI schemes/ programs (pertaining to central/state governments).
- Project management of cluster programme / initiative implementation.
- Support early identification of risks and mitigation thereof.
- Develop the TC's business through the MSME cluster activities.
- Build trust in the TCSP and strengthen social cohesion within the cluster.
- Manage customer relationships.
- Keep stakeholders informed

As a result, the programmes / initiatives are implemented to realise the associated benefits. A record of success is built up to establish a reputation for value addition to cluster participants.

Deliverables:

28. Detailed report on cluster partnerships and planned programmes / initiatives which succeeded to improve the supply/accessibility and use of targeted MSME support services.
29. Detailed report on increased demand for TCs' services.
30. Detailed report on increased number of MSME clusters established as suppliers to large OEMs/large buyers.

Stakeholder group	Participation
OEMs / large buyers	Partner with TCs, other vocational training providers, research institutes and prospective MSME suppliers to improve the supply and

Stakeholder group	Participation
	<p>use of:</p> <ul style="list-style-type: none"> o Technology o skilled workers and o (Limited) business advisory services and supplier development services. <p>Increased business to MSMEs will be proof of their participation</p>
MSME	<p>Partner with TCs, research institutes and leading manufacturers to benefit from improved access to skills, technology, R&D and (initially limited) business advisory services. As a consequence, the number of cluster MSME who qualify as new suppliers to larger firms increases.</p>
Vocational Training Institutes/ ITIs/ Polytechnics	<p>Partner with TCs, other vocational training providers, research institutes, MSME cluster and leading manufacturers to improve:</p> <ul style="list-style-type: none"> - Course / Curricula Development - Trainer's Training <p>Proof of participation will be number of modified/new courses.</p>
TCs	<p>Partner with vocational training providers, research institutes, other service providers and leading manufacturers to improve the supply and use of:</p> <p><i>Technology:</i></p> <ul style="list-style-type: none"> - Production Process Improvement - Product Development - Testing & Calibration - R&D <p><i>Skilled workers:</i></p> <ul style="list-style-type: none"> - Course / Curricula Development (including dealing with EH&S issues) - Trainer's Training - MSME Work Force Training - Student's Training - Student Placements <p><i>Business advisory (limited):</i></p> <ul style="list-style-type: none"> - As a manufacturing facility, to become a reference model of excellence for the MSME industry, with regard to organisation and technology on an internationally competitive level. - Supplier development - Information and referrals about trusted BDS and financial services
Other BDS & financial service providers	<p>Partner with TCs, MSME cluster and leading manufacturers to improve the supply and use of services necessary to improve the competitiveness of MSMEs</p>
Other government institutions	<p>Partner with TCs, vocational training providers, research institutes, MSME cluster and leading manufacturers to improve the utilization of schemes/services/facilities offered by the these institutes.</p>

Stakeholder group	Participation
TCSP	CNM contributes to TCSP results.

Phase 1 Activity 8: Monitor, evaluate and facilitate learning

The CNM would be required to monitor and evaluate cluster performance including the CNM performance indicators. This information will serve to keep the TCSP informed about the health of the program and to enable cluster leaders to learn and adapt to improve performance. In addition, the CNM would be required to submit a monthly status report which would include activities conducted in the reporting period and activities planned for the next reporting cycle. This report would be submitted by the 2nd day of every month.

While the role of the PMU would be to put in place a robust M&E framework which will include monitoring the results framework, the CNM is also expected to assist this process by conducting annual market studies at each cluster to obtain qualitative feedback and endorsements on experiences by:

- MSME engaging with the TCs, including proposed areas of improvement.
- Trainees / skill seekers on the content, methodology and facilities for training.
- Potential employers on the quality of skilled / trained workers.
- Industry academia, industry associations on the role of TCs in improving the competitiveness of the MSME.
- All cluster partners including MSME on the experience of engaging with the CNM and the benefits derived from cluster participation.

The CNM would be expected to develop a statistically proven methodology that is free from bias and provides statistically relevant feedback which can be used as a measure of success for this program.

Sub -Activities:

- Develop reporting formats for approval by PIU.
- Monthly project management reporting to capture input and activity progress.
- Utilize the data from the benchmarking as required outcomes data for various reports.
- Analyze findings and prepare recommendations and reports.
- Prepare reports to PIU and cluster governance structure:
 - Monthly input and activity reporting,
 - quarterly input, activity and output reporting, and
 - annual input, activity, output, outcome and impact report

As a result, the progress of the clusters and the CNM will be monitored and appraised by the PMU and O/o DC, MSME on a regular basis and the success of the program can be established using a statistically proven methodology

Deliverables:

31. Annual *state of the cluster* benchmarking report with recommendations.
32. Monthly, quarterly and annual reports to PIU and cluster governance structure.

Stakeholder group	Participation
OEMs / large buyers	<p>Holistic awareness of progress with value addition and about lessons learnt.</p> <p>Reflection on progress to date.</p>
MSME	
Vocational Training Institutes/ ITIs/ Polytechnics	
TCs	
Other BDS & financial service providers	
Other government institutions	
PIU	

Phase 2: Expanding the scope of cluster activity

Phase 2 will proceed once effective cooperation around phase 1 focal areas are stabilised. In phase 2 the CNM would be required to expand the scope of cluster cooperation activity beyond just the innovation system, to include systematic identification and utilisation other common opportunities (such as enterprise development, infrastructure, access to finance, policy and so forth). The intent is not simply to do more, but to consider more widely what actions would have the most beneficial impact for the specific cluster at the specific time. The holistic scope of factors that determine MSME success can therefore be considered in phase 2. Emphasis therefore shifts from focussing mainly on TC strengths, to holistic strengthening of competitiveness of the regional MSME cluster eco-system. Other systemic issues such as government policy will therefore also be targeted for improvement.

Priorities must be determined through participatory diagnostic and planning processes. Value addition by additional stakeholders is required to increase substantially. The CNM for instance is expected to facilitate network development to provide access for the MSME cluster, to a range of business development services that supports the entrepreneurs in commissioning an MSME unit and providing support through the life cycle of operations. The cluster with links established through TCSP, also establishes a more direct channel to influence national and regional policy.

Phase 2 Activity 1: Gain stakeholder commitment to broadening cluster scope

Similarly to Phase 1 Activity 1, the CNM would at the start of this phase be required to gain commitment from a broader base of stakeholders to participate in cluster development. Existing cluster partners must also be informed and consulted in the process to manage their expectations and concerns about broadening the scope of cluster development activity.

Sub -Activities:

- a. Identify the key stakeholder organizations in the cluster and their leaders.
- b. Update and revised the marketing plan of TC in view of envisaged broadening of scope.
- c. Engage the leadership of key stakeholders to gain their commitment to the process.
- d. Promote cluster participation by matching cluster value addition ideas to their specific needs.
- e. Gain commitment to participate in cluster activities

As a result, key cluster stakeholders support and actively participate in the broadened clustering initiative.

Deliverables:

33. Revised and updated stakeholder map
34. Updated register of cluster members
35. Updated marketing plan for each TC

Stakeholder group	Participation
OEMs / large buyers	Identify leading OEMs / large buyers (cluster target market) and gain their commitment to broaden the cluster activities.
MSME	Identify cluster representative bodies and engage leadership structures to gain commitment to broaden the cluster activities.
Vocational Training Institutes/ ITIs/ Polytechnics	Identify leading education and skills development organisations and gain their commitment to broaden the cluster activities.
TCs	Gain trust and commitment of TC leadership to broaden the cluster activities.
Other BDS & financial service providers	Identify other support institutions important to development of this cluster and gain commitment of their leaders to broaden the cluster development activities.
Other government institutions	Identify other government institutions important to development of this cluster and gain commitment of their leaders to broaden the cluster development activities.
TCSP	Gain trust and commitment of TCSP leadership to broaden the cluster development activities.

Phase 2 Activity 2: Review and update cluster diagnostic, baseline and plan

Similarly to phase 1 activity 2, the CNM would be required to review and update the cluster diagnostic study. This revised study will include the cluster situation, the market prospects over the medium and long term, determinants of success, MSME cluster competitiveness and systemic competitiveness of the business environment. In addition, analysis of key market and competitor trends will also be required to be updated. Cluster competitiveness must be properly benchmarked and analysed in

phase 2. The scope of competitiveness benchmarking includes: local value chains, MSME cluster and systemic competitiveness of the business environment.

This comprehensive diagnostic should be a participatory process for cluster partners to identify new cluster opportunities. The full scope of business environment factors that determine regional cluster competitiveness and growth should be considered, such as:

- Location factors such as industrial space, infrastructure, local public services
- Skilled workers
- Technology
- Product & process innovation support (incl. accreditation)
- Business development services
- Financial services
- Logistical services
- Green economy services
- Cluster and Value chain promotion services
- Export promotion services
- Macro-economic policy and regulation
- Development thinking of society leaders

The strategic plan for cluster development must be updated accordingly to clearly define new priority programmes/initiatives with committed capacity and resources to execute with certainty.

Sub -Activities:

- a. Conduct a detailed diagnostic study to develop an in-depth understanding and assessment of cluster, its market, its competition and the business environment.
- b. Competitiveness benchmarking of local value chains, MSME and the business environment.
- c. Engage and leverage the insight and experience of stakeholders groups during analysis to determine the competitive advantages and disadvantages and new opportunities.
- d. Utilize established methodologies to identify new opportunities for cluster MSMEs.
- e. Develop strategic plan with schedule of prioritized programmes/ initiatives for strengthening sustainable competitive advantage. These programmes/initiatives address specific needs/opportunities jointly prioritized with the industry associations.
- f. Derive and identify the required strategic partners (including TC) for successful execution.
- g. Obtain endorsement by Industry Associations of the needs assessment, strategy and planned initiatives.
- h. Validate and collect key results indicators of TCSP at cluster level
- i. Identify revenue stream opportunities for CNM future self-sustainability.

As a result, strategic programmes/ initiatives are defined and all the relevant parties for future strategic partnerships and other participation have been identified. Cluster stakeholders support the plans which they have endorsed for joint implementation.

Deliverables:

36. Detailed diagnostic study (including benchmark results).
37. Endorsed strategic plan for cluster development (including action plan).
38. Input on expanded functionality and services to be offered by National Portal provided to NPSP.
39. Updated data for key results indicators.

Stakeholder group	Participation
OEMs / large buyers	<p>Identify opportunities and prioritise pragmatic initiatives to strengthen and grow the OEMs' MSME supplier base and to improve the business environment including:</p> <ul style="list-style-type: none"> - Skilled workers - Cluster and Value chain promotion services - Location factors such as industrial space, infrastructure, local public services - Export promotion opportunities - Macro-economic policy and regulation - Development of thought leadership
MSME	<p>Engage and leverage the insight and experience of the leaders of MSME cluster representative bodies</p> <p>Identify market opportunities for MSME to qualify as suppliers to OEMs. Benchmarking of the MSMEs competitiveness. Prioritise pragmatic initiatives to enable more MSME to qualify as suppliers to OEMs, and to improve the business environment in the following areas:</p> <ul style="list-style-type: none"> • Location factors such as industrial space, infrastructure, local public services • Skilled workers • Technology • Product & process innovation support (incl. accreditation) • Business development services • Financial services • Logistical services • Cluster and Value chain promotion services • Export promotion services • Macro-economic policy and regulation • Development thinking of society leaders
Vocational Training Institutes/ ITIs/ Polytechnics	<p>Engage and leverage the insight and experience of leading Vocational Training Institutes/ ITIs/ Polytechnics</p> <p>Identify and prioritise pragmatic initiatives to improve cooperation for mutual benefit on business environment factors such as:</p> <ul style="list-style-type: none"> - Skilled workers - Technology - Product & process innovation support (incl. accreditation) - Green economy services - Macro-economic policy and regulation

Stakeholder group	Participation
TCs	<ul style="list-style-type: none"> - Development thinking of society leaders <p>Engage and leverage the insight and experience of the TC leadership, to inform the study, shape recommendations and build shared ownership of outcomes.</p> <p>Identify a broader scope of opportunities to increase the value of TCs' businesses generated with support of Cluster Managers, including:</p> <ul style="list-style-type: none"> - Skilled workers - Technology - Product & process innovation support (incl. accreditation) - Cluster and Value chain promotion services
Other BDS & financial service providers	<p>Engage and leverage the insight and experience of relevant other BDS and financial service providers.</p> <p>Identify and prioritise pragmatic initiatives to improve cooperation for mutual benefit in areas including:</p> <ul style="list-style-type: none"> - Skilled workers - Technology - Product & process innovation support (incl. accreditation) - Business development services - Financial services - Logistical services
Other government institutions	<p>Engage and leverage the insight and experience of relevant government institutions.</p> <p>Identify and prioritise pragmatic initiatives to improve cooperation for mutual benefit in areas including:</p> <ul style="list-style-type: none"> - Location factors such as industrial space, infrastructure, local public services - Skilled workers - Technology - Product & process innovation support (incl. accreditation) - Business development services - Financial services - Logistical services - Cluster and Value chain promotion services - Export promotion services - Macro-economic policy and regulation
TCSP	<p>Engage and leverage the insight and experience of the PIU and PSC members</p> <p>Identify opportunities for improved cooperation by steering committee represented institutions, for mutual benefit on business environment factors including:</p> <ul style="list-style-type: none"> - Macro-economic policy and regulation - Development thinking of society leaders <p>Provide inputs on expanded functionality and services to be offered by National Portal to be provided to NPSP.</p>

Stakeholder group	Participation
	Updated data for key results indicators.

Phase 2 Activity 3: Review and update cluster interaction mechanisms

The CNM would be required to review and update the cooperation partnerships between the MSME TCs, industrial partners, academia, other government institutions and external advisors. The revisions need to accommodate the broadened scope of activities and introduce income streams for future CNM sustainability. Revenue streams for CNM self-sustainability could be earned from membership fees, commissions and fixed fees for specific services such as increasing revenues for the TCs.

Sub -Activities:

- Develop the updated partnership models – purpose, performance, functions and roles.
- Define the updated operative interaction within the cluster – process flow, responsibilities, information flows, and knowledge management.
- Develop and drive the updated cluster management function.
- Identify value adding activities which can generate revenue for CNM, such as commissions on additional revenues earned for TCs, cluster membership fees linked to a bouquet of services, and so forth.
- Test and demonstrate the viability of these income streams.
- Develop a business model for sustainability by year 5 or earlier.

As a result, the cluster interaction mechanism specification is updated and a sustainable business model for the CNM to become financially sustainable is defined.

Deliverables:

- Updated partnership models that define the relation between all parties in the cluster.
- Updated operative interaction mechanisms with regard to specified collaboration, knowledge management and further interaction platforms.
- Updated definition of strategic partners to engage into long-term relationships to support cluster development.
- Updated marketing plan for each TC.
- A business model and business plan for CNM sustainability approved by cluster stakeholders.

Stakeholder group	Participation
OEMs / large buyers	New roles, partnerships and associated responsibilities defined.
MSME	
Vocational Training Institutes/ ITIs/ Polytechnics	New cooperation processes and Knowledge Management Interaction

Stakeholder group	Participation
TCs	defined. Cluster facilitation fee structures understood and accepted.
Other BDS & financial service providers	
Other government institutions	
TCSP	

Phase 2 Activity 4: Develop a road-map for transition to cluster sustainability

The CNM would be required to develop the road-map of sequential activities and milestones, which have to be followed to achieve financial sustainability of the CNM. This is based on the strategy and structure of the cluster defined in the previous activities.

Sub -Activities:

- Definition of the Road-Map (which includes key milestones).
- Detailing of Phases of the Road-Map (which includes all critical steps).
- Capacity Building of TC employees to help carry forward the activities of CNM post completion of the project through development of training material and delivery of a structured training program

As a result, all measures are described that need to be addressed to realise financial sustainability.

Deliverables:

45. Detailed road-map defining all phases to enable the successful transition to self-sustainability of the Cluster Network Manager

Stakeholder group	Participation
OEMs / large buyers	Road-Map for cluster transition to self-sustainability available
MSME	
Vocational Training Institutes/ ITIs/ Polytechnics	
TCs	
Other BDS & financial service providers	
Other government institutions	

Stakeholder group	Participation
TCSP	

Phase 2 Activity 5: Develop the dynamic organic linkages among all the stakeholders

The CNM would be required to develop the dynamic organic linkages among the stakeholders including private and public sector institutions and enterprises so that advantage can be derived for MSMEs through the best practices.

Sub-activities:

- Map the latest relevant development in the ecosystem
- Create the linkages with appropriate stakeholder in order to improve the competitiveness of the MSMEs (e.g. reduction on wastage, faster customer response cycle, quicker new product launches, business process improvement, new patents, etc.)
- Setup the mechanism so that MSMEs can start with best available information on market, technology, human resources, raw material sources, finance facility, etc.
- This platform should be self-correcting, growing and self-sustainable for long term value creation

Deliverables:

46. New product launches by collaboration among stakeholders
47. Increased revenue / profit of the cluster
48. Virtual or physical platform with governing mechanism to continuously create value for MSMEs.

Stakeholder group	Participation
OEMs / large buyers	Contribute leading practices and new developments from their respective organization in to the platform
MSME	
Vocational Training Institutes/ ITIs/ Polytechnics	Support other stakeholders in their endeavours to improve the competitiveness
TCs	Actively engage with other stakeholder to maintain and improve the performance of the virtual / physical platform
Other BDS & financial service providers	
Other government institutions	
TCSP	

Phase 2 Activity 6: Facilitate implementation of additional cluster programmes/initiatives

The CNM would be required to facilitate partnership formation and economic development cooperation required for cluster partners to holistically strengthen the MSME cluster competitive advantage. In addition it will be required to increase value addition by other (non TC) stakeholders to develop a more competitive business environment that makes it easier to succeed and grow.

Sub -Activities:

- Develop new partnerships for mutual benefit around identified programmes / initiatives.
- Initiate additional programmes / initiatives including:
 - Establish MSME cluster access to a host of business development services to support the entrepreneurs.
- Project management of cluster programme / initiative implementation.
- Support early identification of risks and mitigation thereof.
- Keep stakeholders informed.
- Build and strengthen social cohesion.
- Manage customer relationships.

The result of increasing the scope of cluster facilitation to include all factors critically retarding cluster competitiveness systematically makes it easier for cluster MSME to grow. This process also generates increased demand and utilisation of TC, other business development and CNM services.

Deliverables:

49. Additional cluster partnerships and planned programmes / initiatives which succeed to strengthen the MSME cluster competitive advantage.
50. Increased demand for TCs' services by marketing TC as per the updated marketing plan.
51. Increased cluster MSME established as suppliers to large OEMs/large buyers.
52. CNM revenue streams established.

Stakeholder group	Participation
OEMs / large buyers	Scope of supplier development services expanded beyond skills, technology, R&D. New partnerships to enable holistic strengthening of regional competitive advantage by systematically developing a more competitive business environment.
MSME	New partnerships to enable holistic strengthening of regional competitive advantage by systematically developing a more competitive business environment. The broadened programme scope systematically adds new support services (beyond skills, technology, R&D) and reduces impediments to growth, which makes it easier for MSME to succeed and grow.
Vocational Training Institutes/ ITIs/ Polytechnics	New partnerships to enable holistic strengthening of regional competitive advantage by systematically developing a more competitive business environment.
TCs	<p>New partnerships enable holistically strengthening of regional competitive advantage by systematically developing a more competitive business environment. In new programme execution, develop new partnerships with relevant stakeholders.</p> <p>The TC services also expand to now include: Technology:</p>

Stakeholder group	Participation
	<ul style="list-style-type: none"> - Production Process Improvement - Product Development - Testing & Calibration - R&D <p>Skilled workers:</p> <ul style="list-style-type: none"> - Course / Curricula Development - Trainer's Training - MSME Work Force Training - Student's Training - Student Placements <p>Business advisory (limited):</p> <ul style="list-style-type: none"> - A manufacturing facility, that is a reference model of excellence - Benchmark MSME competitiveness in management practices (as MSME manufacturer) - Benchmark MSME competitiveness in use of manufacturing technology - Supplier development advice - Information and referrals about trusted BDS & financial services (for all other business advisory) - Create awareness of relevant MSME support schemes
Other BDS & financial service providers	New partnerships to enable holistic strengthening of regional competitive advantage by systematically developing a more competitive business environment.
Other government institutions	New partnerships to enable holistic strengthening of regional competitive advantage by systematically developing a more competitive business environment.
TCSP	Broadened programme scope to holistically strengthen regional cluster competitive advantage by developing a more competitive business environment, which makes it easier for MSME to succeed and grow

Phase 3: Self-sustained continuation

The CNM would be required to achieve a state of cluster maturity, where the CNM activities are financially self-sustainable (when income exceeds expenditure).

3. Organization Structure and Team composition

3.1 Organizational Requirements

Bidding organizations must have a proven track record (capability and experience) to deliver the above objectives.

1. The firm must be a registered legal entity and should have been in existence for at least 5 years.
2. The firm must have an average annual turnover of USD 10 million over the last 3 years. At least USD 600,000 each year must be from cluster facilitation, innovation systems or related professional services.
3. Must have at least 3 completed/ ongoing projects in cluster development (in the relevant sector) in the last 5 years.

3.2 Team Composition:

The firm will appoint a suitable and experienced team of Cluster Managers to facilitate cluster and market development in all the TC clusters. The CNM team needs to demonstrate experience in the integration of technologies, business organisation and human skill development in advisory to OEMs and their supply chains, in India and/or around the world. For the CNM to gain the required level of trust and acceptance by the selected MSMEs clusters, it is important for the CNM partner to hire cluster facilitators with the right credentials/market recognition.

Following are the minimum quantities and deployment for the team members required from each Cluster Network Manager. This table is for guidance only. Participants are expected to present their own version of team structure and composition best suited to deliver the required results during the RFP stage. In case Consultant wishes to apply for more than one package, the Consultant must provide separate Project Lead and Key Staff for each package.

a) Cluster Network Manger Package 1 (M1)

S.No.	Role	No. of Personnel	Indicative Man months
1.	Project Lead/ CNM Operations Manager	1	72 months
2.	International Cluster Development Expert/ Coach	1	20 months
3.	Relevant Sector Experts*	2	3 Months each
4	Cluster Managers	3-4	72 months each
5.	Administrative Assistant	1	72 months

*Relevant sectors include Automotive and General Engineering.

b) Cluster Network Manger Package 2 (M2)

S.No.	Role	No. of Personnel	Indicative Man months
1.	Project Lead/ CNM Operations Manager	1	72 months
2.	International Cluster Development Expert/ Coach	1	20 months
3.	Relevant Sector Experts**	4	3 Months each
4.	Cluster Managers	3-4	72 months each
5.	Administrative Assistant	1	72 months

**Relevant sectors include General Eng., Automotive, Precision mfg., and Foundry & Forging.

c) Cluster Network Manger Package 3 (M3)

S.No.	Role	No. of Personnel	Indicative Man months
1.	Project Lead/ CNM Operations Manager	1	72 months
2.	International Cluster Development Expert/ Coach	1	20 months
3.	Relevant Sector Experts#	3-4	3 Months each
4.	Cluster Managers	3-4	72 months each
5.	Administrative Assistant	1	72 months

Relevant sectors include Foundry & Forging, Hand Tools, ESDM and Agricultural implements.

d) Cluster Network Manger Package 4 (M4)

S.No.	Role	No. of Personnel	Indicative Man months
1.	Project Lead/ CNM Operations Manager	1	72 months
2.	International Cluster Development Expert/ Coach	1	20 months
3.	Relevant Sector Experts^	4	3 Months each
4.	Cluster Managers	4-5	72 months each
5.	Administrative Assistant	1	72 months

^ Relevant sectors include Sports Goods, Fragrance & Flavours, Agro & allied industries, Leather & Footwear and Designer & Decorative Glass Industry.

e) Cluster Network Manger Package 5 (M5)

S.No.	Role	No. of Personnel	Indicative Man months
1.	Project Lead/ CNM Operations Manager	1	72 months
2.	International Cluster Development Expert/ Coach	1	20 months
3.	Relevant Sector Experts***	4	3 Months each
4	Cluster Managers	3-4	72 months each
5.	Administrative Assistant	1	72 months

*** Relevant sectors include Precision manufacturing, advance welding, leather & footwear and ESDM.