

GOVERNMENT OF INDIA
MINISTRY OF SCIENCE & TECHNOLOGY
DEPARTMENT OF SCIENCE & TECHNOLOGY
NATIONAL GEOSPATIAL PROGRAMME (NGP)

Call for proposal (short -term) for DST-NGP (*erstwhile* NRDMS) in Collaboration with AGNi, Office of the Principal Scientific Adviser on Geospatial Analytics for Revival and Restoring the Economic Growth in Post COVID-19 Scenario

Introduction

The Department of Science & Technology under its National Geospatial Programme (*erstwhile* NRDMS) has been Promoting Geospatial Science and Technology, Policy, Solution, capacity building, entrepreneurship and International cooperation for sustainable socio-economic development at all levels of Governance. Since the start of the COVID-19 outbreak, Geospatial technology has emerged as key player in tracking and visualizing disease spread both in space and time. However, the COVID-19 outbreak will not have only short-term impact but also many long-term socio-economic effects as well. Thus, in this time of crisis, role of Geospatial information and technology during and Post COVID 19 phases should be in reviving various sectors of the Economy.

With these objective in mind and to strengthen the area specific geospatial analytics capabilities of the country, this department in collaboration with Accelerating Growth of New India's Innovations (AGNi) initiative of Office of the Principal Scientific Adviser to the Government of India under the Prime Minister's Science, Technology, and Innovation Advisory Council PSA office, invites short -term proposals from Geospatial start-ups and knowledge Institutions of the Country. The DST-AGNi partnership advanced AGNi's mandate – to further strengthening the nation's innovation ecosystem; in this case, within geospatial sector.

Focus Areas

Financial support will be provided to selected organization focusing on area specific spatial analytics (including techniques/demonstration etc.) in the sectors of migration, employment generation (specially in agriculture and construction), strengthening of livelihood, resource mapping for community resilience etc. The details are as follows:

A. Migration

- Urban and regional mobilities: dwell times and movements to assess the situation and identify trends (pattern of migration, reasons for migration, seasonality, nature of work, region-wise wage disparity, problems of access to Public distribution system (PDS) food, access to health, children education, living conditions, etc.)
- Convergence, migration and dispersal of population and migrant workers in the view of monitoring health, especially nutrition, carrying mothers and child care during migration
- Digital supply chain maps and analysis for planning and ensuring geographical diversity in suppliers as well as aligning needs with distribution

B. Strengthening Livelihood and Employment Generation

- Mapping and geo-analysis of reverse migrants for assessment/ of livelihood creation with in village/district/state

- Geospatial analytics for Skilling/ reskilling of migrants (job opportunities, increase work efficiency and enhance quality of their output)
- Resource mapping for community resilience
- Site Suitability Analysis for livelihood creation and survival viz. in gardening, cash cropping, animal husbandry, fishing etc.
- Resource locator in a cluster for skill development trainings as well as Geo-cultural indicators for livelihood such as Bamboo craft, wood craft, fisheries cluster, Mushroom cultivation, handicrafts of local artisan etc.
- Modelling mitigating the situation for economic sectors such as industry, commerce, transport and agriculture based upon satellite data
- Modelling import substitution in tier 2/ tier 3 cities aligning with the need of rural catchment area
- Modelling urban unemployment in service sector and solution there-in

C. Others

- Development of open source village level Geospatial information platform for villagers, school teachers, students
- Modelling/assessing forecast of potential Spread of COVID-19 beyond the lockdown and mitigation (City centric infection percolation model)
- Predictive risk of each district for COVID-19 through Sewage disposals and environment predictors such as heat, humidity, hygiene, sanitation and other covariates such as age/social distancing
- Deep Reinforcement Learning model using COVID 19 databases to assist in optimal response in a dynamically varying scenario
- Social vulnerability mapping and analysis of COVID-19 impacts for initiating economic activities
- Dependency modelling of healthcare infrastructure (hospitals, quarantine facilities, etc) with interrelated infrastructures such as transportation, water supply, pharmacy/ equipment, food supply etc
- Knowledge representation approaches (e.g. Ontologies) of the causal relationships between disease and geographical settings to enable reasoning for automated decision making
- Geospatial analytics based upon AI/ML for future disaster preparedness

Who can submit the proposal?

The proposal can be submitted by the faculty members, scientists, engineers, technologists in permanent positions working in UGC recognized universities, national institutions of research and research management etc. having requisite qualification in the field of geospatial analytics. Apart from the knowledge institutions, Start-ups working in geospatial analytics domain may also apply. The Start-ups may also apply in collaboration with a knowledge Institution. The PI/ start-ups shall have sufficient experience in this field evidenced by published books/ papers, project handled/ field experience etc.

Last date for **online** receipt of proposals is 9th January, 2021.

Duration and Fund Support

The proposal may be supported for maximum duration of 06 months-1 year.

IP issues and pilot testing and access for user community

The PI should clearly state the status of the digital product in terms of its access to user community within Government or Civil Society or individual user. The nature and extent of the controls resting with the PI / Start up should be clearly specified. The proposal should have clear plan for a proof of concept and pilot demonstration stage. Preference will be given to proposals using open source software and providing open access to the user (s).

How to submit the proposal?

The proposals should be submitted as a singly pdf document at <https://onlinedst.gov.in/> in proper format as provided at <https://onlinedst.gov.in/> and duly forwarded by Head of the Institution/ University.

Non-governmental organization (Deemed and private universities and research and development organization) should be registered at the ngodarpan.gov.in portal of the Government of India before submission the proposal.

For any other query and submission of proposal please contact:

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NOTE: The e-version of the proposal duly endorsed from Head of the organisation should be submitted as a single pdf document under Geospatial Technology and Applications scheme of NGP Division (*erstwhile* NRDMS), at <https://onlinedst.gov.in/>.