Digitization of Maps
The digitization of maps for Government of various mining leasehold areas, verification of boundaries using DGPS and cross verification with actual ML maps and using satellite imagery to detect illegal mining in the State. In the first phase this project will be taken up on a pilot basis in Keonjhar district.

ORSAC has been engaged the work of digitization of the cadastral map of the mining leases and also carry out the digitization of survey boundary using DGPS. As per the requirement of IBM circular No.2/2010 dated 06.04.2010, ORSAC has been recognized by the State Government as the agency for carrying out survey using DGPS in the State.

The mining lease/prospecting license boundary showing all Khasra numbers/Survey Nos on a Cadastral Map on original plan (not the photo copy) published by the competent authority of State Government under relevant law shall be submitted along with application for Mining Lease/Prospecting License/Reconnaissance Permit/RML/Mining Plan/ Scheme of Mining/Progressive Mine Closure Plan and Scheme of Prospecting by the Lessee/Applicant/Licensee. ORSAC will vectorise the cadastral maps and integrate with the digitized cadastral revenue maps.

The boundary pillars of each mine lease/prospecting license are to be fixed precisely. The lessee at his own expenses erect and at all times has to maintain and keep in good repair boundary marks and pillars necessary to indicate the demarcation shown in the plan/lease map annexed to the lease as required under Rule 27 (1)(g) of M.C. Rules, 1960. Each boundary pillars shall be surveyed using DGPS (at least 2 hours observation) for its ground position by an agency recognized by the State Government, which is ORSAC. Since ORSAC has already established ground control points in Keonjhar District, they will indicate the same in the maps. At the time of survey a survey team comprising of officials from Mining Department, Forest Department and Revenue Department shall verify and authenticate the position of the boundary pillars. During the survey labour support and bush clearances of boundary lines will be made available to ORSAC by the lessees.

The Geo-referenced mining lease / prospecting license map prepared using DGPS shall be superimposed on Geo-referenced vectorised cadastral map. On integration, the Geo-referenced mining lease/ prospecting license map shall be duly matched with Geo-referenced vectorised cadastral maps.
In case of forest areas, the boundary pillars shall be fixed on ground with reference to at least three permanent ground features in and around mining leases/prospecting licenses.

The Geo-referenced mining leases/Prospecting licenses map shall be superimposed on latest high-resolution satellite data (cloud-free) derived from merging of Cartosat-2 and LISS-IV (scale 1:5,000) covering an area of 500 meters from the mining lease/applied area boundary.

The satellite data products are available from NRSC, Hyderabad. The superimposed output in the form of soft copy and hard copy should be submitted along with the application for Mining Lease/Prospecting License/Reconnaissance Permit/RML/Mining Plan/Scheme of Mining/Progressive Mine Closure Plan and Scheme of Prospecting. The soft copy submission should be in the standard format and digitized maps should be in shape of file, which can be imported in any GIS database.

The above maps will be base for preparation of all statutory purposes as well as working plans of the mines.

ORSAC will take up digitization of the cadastral map of the mining leases (raster form). The Director of Mines will make the maps available to ORSAC of the working leases and also working mines under suspension to ORSAC by 20th June. This digitization work of the working leases should be completed on priority.

ORSAC will also carry out the digitization of survey boundary during DGPS simultaneously and digitize the same. ORSAC has 3 DGPS sets and will also make available 3 mine sets for the exercise.

ORSAC will be also provide satellite imagery for use with the digitized maps. ORSAC will provide support in strengthening the Steel & Mines Department so as to make use of the available technology.