REMOTE SENSING APPLICATION ON MINING

Mining activities faces serious challenges:
- Illegal mining phenomenon
- Safety issues (coal fire risk, mine collapsing)
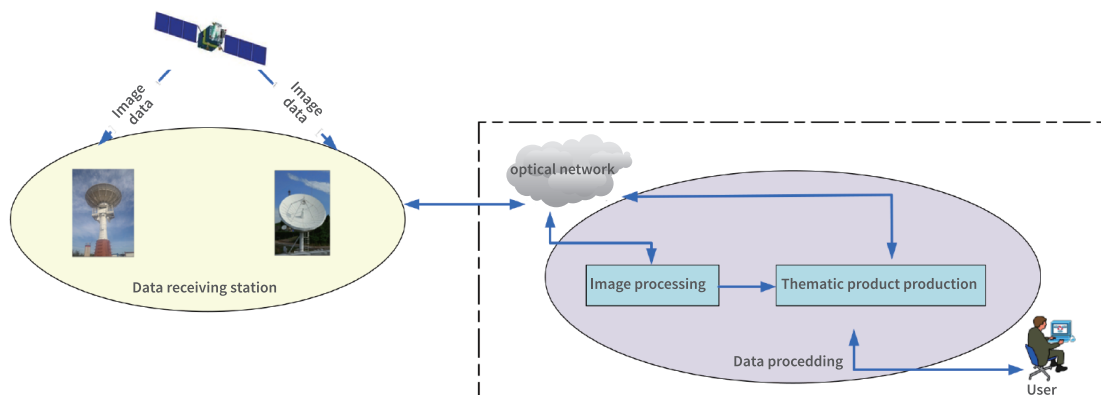- Environment impact

Remote sensing technology plays a significant role in the mineral. (RS) technology can be used to monitor the mining industry to prevent illegal mining activities and disaster in mining areas.

OUR PROPOSAL

Remote sensing technology has been used in mineral resource as an effective assistant method. The cooperation with Chinese government's institutes, industrial companies and other institutes gave us enough experience to use RS in mining activities .

SSTC's can offer thematic products for mining applications, either in prevention and security as in planning , exploration and exploitation of mines. Our products can help in all the faces of mining industry and also can help the governments to better control their land resources.

A simplify diagram of our system is showed bellow.

FUNCTION

- Dynamic monitoring
- Large-scale disaster monitoring
- Get more disaster information
- Extract disaster information efficiently from available information

In the right it shows a mining prospecting remote sensing image.

According to remote sensing image characteristics, it allows us to extract the ore-controlling strata, structures and remote sensing mineralized alteration information, then using these data it is possible to perform a mine prediction. From blue to red it indicates the probability of a mine areas, where red indicates the highest probability and blue the lower for a mine area. The remote sensing's prediction accuracy image is greater than 90%.

PERFORMANCE

- Thematic product production capacity: 70 scenes/day.
- Wavelength range: 0.4-14 μ m.
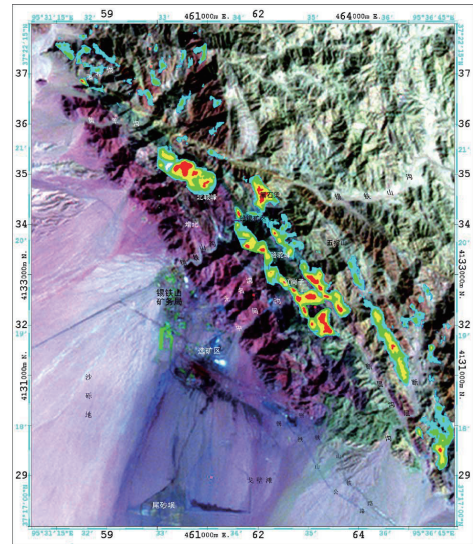
In the image bellow it shows the distribution of minerals in an area of XinJiang province.

新疆东天山土星东—三岔口地区矿物分布图

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	
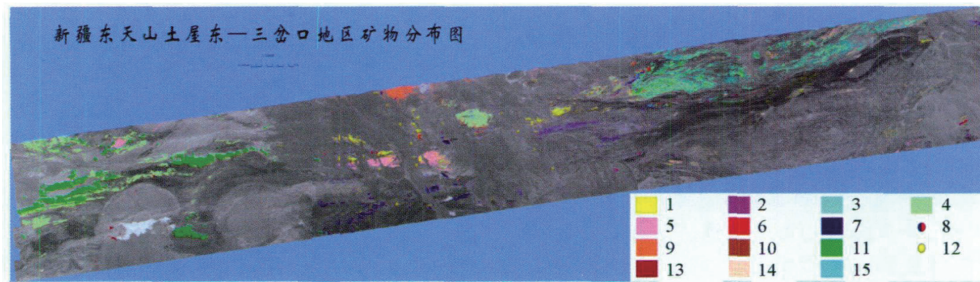
1—High Al muscovite; 2—kaolinite; 3—talc; 4—epidote; 5—low Al muscovite; 6—calcite; 7—serpentine; 8—Lead nickel deposit; 9—High Fe-Mg muscovite; 10—limonite; 11—chlorite; 12—gold deposit; 13—montmorillonite; 14—Salinization; 15—chlorite and serpetine