A simple, affordable and efficient multifaceted system with technical software programs, “Kosmos 3M”, was developed for taking images of the Earth from NOAA satellites and for handling this images and analyzing many geographical and meteorological parameters. Technical software programs have been developed that utilize the “Kosmos 3M” Receiver system. Basic capabilities of the multifaceted “Kosmos 3M” system include: receiving signal from NOAA satellites; digital processing of space images with geographical fixing, superposition of maps of cities and coordinate grid; finding of geographical coordinates at any point of space image; finding of temperature of underlying surface at given points; finding of albedo (reflection coefficient) at any point of space image; finding of upper boundary of clouds (cloudiness); forecasting of dangerous weather phenomena; defining wind fields in cyclones; precipitations forecast; measuring distances between given points; measuring surfaces (areas); and forming of electronic library of images of the Earth.

Work is underway to use the “Kosmos 3M” cloudiness images to estimate the incident solar radiation values for evaluating terrestrial solar energy performance in real time. Such kind of system would have a wide variety of uses from the classroom to the field.