

# Satellite Tracker

See more than 1000 Satellites in Orbit



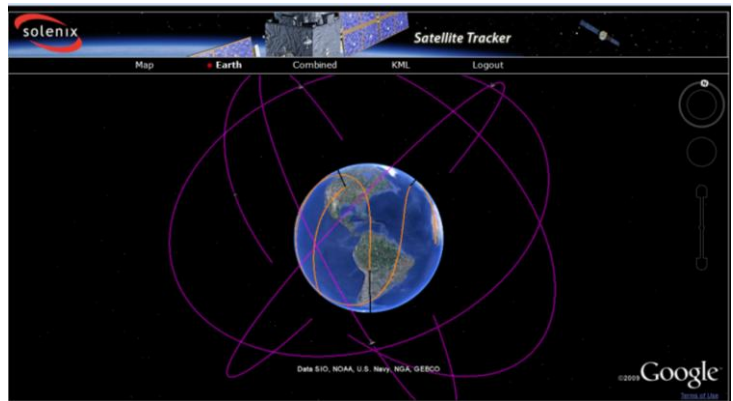
The Solenix Satellite Tracker provides an easy access and clear view of satellites orbiting the earth. Proven technology makes it fast and robust. We also provide customized versions of the tracker for our customers.

A dedicated server application generates the KML files for each of the satellites dynamically. A clever cache reduces the computing effort and makes support for many concurrent users possible.

## Quick Facts

- Over 1000 Satellites can be tracked
- View in a browser or Google Earth
- Scalable for many concurrent users
- Fully automated
- Customizable for your needs

Try it yourself at <http://space.solenix.ch>



Screenshot of the Satellite Tracker in Virtual Globe mode

## Introduction

The Satellite Tracker started out as a hobby project to explore the propagation and visualization of orbits. Google Earth was chosen as platform for visualization, as it offers an easy and elegant way to display custom 3D data around the globe.

## Technology and Background

Our Satellite Tracker is driven by simple, yet powerful software. The orbit information is obtained as Two Line Element files, which describe the relevant coefficients for a satellite orbit.

Using this data, the orbital coordinates are then calculated using the state of the art propagation algorithms SDP4 or SGP4 depending on near-earth or deep-space trajectory.

These propagated orbits are shown in a 3D virtual globe as well as on a 2D map. One of the most flexible and existing technology for this is Google Earth with its KML data format. With KML, 3D data can be expressed using the geodetic reference system and provides an easy means to display the orbits around the virtual globe. Eventually Google Maps caught up with the support for KML, which made the additional display of spacecraft orbits on a map possible.

## Use Cases

The satellite tracker is useful for different occasions, e.g.

- Public Relations  
Show a satellite orbit shortly after the launch
- Visitor Centers  
Display the trajectory of various satellites to visitors
- Explore currently flying satellites and orbits
- Just for fun and better understanding of orbit types and dynamics

## What's next?

As a hobby the satellite tracker is never "done". We plan to extend it in the following ways:

- User based profiles  
for user-customizable lists of satellites
- Mobile version,  
the satellite tracker in your pocket
- Integration of more precise sources and propagation algorithms
- Integration of 3D satellite models
- Porting to NASA World Wind