The Scanning Imaging Absorption spectroMeter for Atmospheric CHartographY (SCIAMACHY) is a German/Dutch/Belgium contribution to the ENVISAT satellite, which has been launched in March 2002. The SCIAMACHY instrument measures sunlight transmitted, reflected and scattered by the Earth's atmosphere or surface simultaneously from the UV to the SWIR spectral region (240 - 2380 nm) in nadir, limb, and occultation viewing geometry. This measurement strategy allows the global characterisation of the composition of the Earth atmosphere from the boundary layer up to the mesosphere. In the troposphere SCIAMACHY delivers tropospheric column concentrations of $\text{O}_3$, $\text{NO}_2$, $\text{SO}_2$, $\text{H}_2\text{O}$, $\text{HCHO}$, $\text{CO}$, $\text{CO}_2$, $\text{CH}_4$ as well as cloud and aerosol information. In the stratosphere profiles of $\text{O}_3$, $\text{NO}_2$, $\text{BrO}$, $\text{H}_2\text{O}$ and other parameters can be derived. Beside this SCIAMACHY is able to contribute with solar irradiance data and upper atmospheric soundings to solar-terrestrial research relevant for the understanding of climate change. SCIAMACHY data will allow to significantly contribute to applications in the area of GMES “Atmospheric Monitoring”, Kyoto and Montreal Protocol verification as well as “Chemical Weather” applications.

The talk will summarise on the results and findings from the first 2 years of SCIAMACHY in orbit.