Selected Science Case for which efforts in node "Surface & Interior" will be concentrated:

MARS TECTONICS – THE LINK BETWEEN SURFACE AND INTERIOR

Background:

- The tectonic record of Mars is well preserved
- Tectonic activity is the surface expression of interior processes

Key questions:

- What was the sequence, intensity and spatial distribution of tectonic events?
- How is this related to the interior structure, the style of mantle convection and the thermal evolution of the planet?
- What are the similarities and dissimilarities in terms of sources and style between Martian and terrestrial tectonics?

Key Products:

- Interactive Fault Map (from DLR)
- Virtual lecture on Mars Tectonics (tbd)

Other Science Cases in node "Surface & Interior":

Enceladus – A Small Active Icy Satellite

- Plume eruptions (mainly H_2O)
- Thermal anomalies, correlated with geologic features ('tiger stripes')
- Geologically strongly modified terrain near the south pole

Key questions:

- What is the energy source driving the thermal activity and the jets?
- Is the activity recent, persistent, or episodic?
- Is liquid water present near the surface?

The Use of Terrestrial Analogues in Studies of the Martian Surface

- **Terrestrial analogues are widely used in planetary research**
- **Main fields: Geological Process Studies, Technology Development, Laboratory Measurements and Modeling**

Key questions:

- How do terrestrial analog studies tie into prime Mars science objectives?
- How can future instrumentation be used to address these questions?