At the high brilliance synchrotron light source PETRA III in Hamburg, Germany, the Hard X-Ray Diffraction Beamline P02 is dedicated to \textit{in situ} diffraction experiments at high time-resolution using high-energy x-rays. The side station P02.1 operates at a fixed photon energy of 60 keV. Its dispersive monochromator produces a highly intense and highly collimated beam of very narrow energy bandwidth. These excellent beam characteristics turn P02.1 into an ideal instrument for many different kinds of experiments, ranging from high resolution powder diffraction of polycrystalline materials for structure refinement and microstructure analysis to the study of nanocrystalline and disordered materials to determine their local structure. Besides the basic characterization of individual samples, it is the main focus of the beamline to observe the dynamics of transitions of the crystalline state under non-ambient conditions in real time. For this purpose, diffraction data is collected using a large and fast area detector which provides a time-resolution in the sub-second range. In addition to standard sample environments for measurements at high or low temperatures, user-specific setups can be installed to perform a wide range of \textit{in situ} experiments. Due to the high flux and high penetration power of the photons, it is practically feasible to follow reactions in sealed reactors on the time scale of tenths of a second. As the available range in reciprocal space in the obtained diffraction patterns is beyond $q = 30 \, \text{Å}^{-1}$, information on the local disorder in nanocrystalline materials is accessible. Therefore, the beamline is ideally suited to investigate dynamic processes such as the formation of nanoparticles by wet-chemical synthesis with respect to the underlying reaction mechanism, \textit{i.e.} intermediates, phase transitions, and kinetics. Likewise, the performance of materials during thermal treatment or applied mechanical force can be studied. This presentation will describe the opportunities available at the beamline and show some highlights of successful experiments.