The SmartVideo project, granted by the BMBF (Bundesministerium für Bildung und Forschung) and managed by the computer network research group at the Cologne University of Applied Sciences, is working on measuring methods and systems for the determination of the subjective image quality (QoE) in IP video streams. The SmartVideo monitoring and measurement system detects bottlenecks and deterioration in quality. QoE monitoring and suitable QoS control can be used to guarantee the pleasure of video entertainment.

IPTV services, as a new way to distribute linear television, are growing continuously. These services need special attention in relation to the quality of service, because IPTV is a time-critical service and sensitive to delay, jitter and packet loss. Standardized complex procedures evaluate the image quality in a full reference approach. This measuring method needs powerful systems and an error free reference in addition to the video to be measured, to compare the video streams picture by picture. In monitoring systems the full reference approach is unfeasible.

Here starts the research project SmartVideo. In a distributed environment the SmartVideo system detects and analyzes video streams with several “light weight” probes. It uses new developed measuring procedures and analysis algorithm to evaluate the video content without having access to the video source. The SmartVideo system works with a non-reference method and allows the implementation of a low cost measuring system.

By the use of „light weight“ probes it is possible to measure QoE - beside the well-known measuring points in the core network - in the home network with IAD or STBs. All areas of a network for end-to-end service monitoring may be covered. The SmartVideo measuring system is directed to DSL providers, Internet service providers and mobile network operators as well as to developers and suppliers of IP streaming services. The SmartVideo project is partnered by Vodafone D2 (former Arcor) and CETECOM.