The ARiSE project aims to create an innovative teaching aid that leverages the specific learning affordances of tabletop augmented reality in the classroom and helps teachers to develop new educational practices for exploring scientific and cultural content. The project involves seven partner organisations from five European countries and runs for three years ending December 2008.

The consortium has developed the rugged and low-cost augmented reality display system called Spinnstube™.

Spinnstube is a seated system that allows both co-located and remote collaboration between users.

In order to evaluate Spinnstube as a learning platform, three consecutive prototypes of educational applications were produced, each reflecting the evolving technological capabilities of the system and addressing different pedagogical approaches.

- 2006
  - Process Visualisation
    - Learn about Human Biology based on behaviourist and cognitive learning theories

- 2007
  - Construction with Guidance
    - Learn about Atomic Structure, the Periodic Table and Chemical Bonds based on constructivist learning theories

- 2008
  - Tele-presence and remote discussion
    - Learn the cultural heritage of other countries through communication and negotiation of meaning based on social learning theories

E-Learning standards compliance is a high priority for both schools and content developers. We have developed software components that make Spinnstube learning content SCORM compliant and enables communication with standard Learning Management Systems.

The first two applications have been evaluated in summer school projects in Malta (2006) and Bucharest (2007). The evaluation of the third application, currently underway, involves a distributed event with students from Siauliai (Lithuania) and St Augustin (Germany).

Preliminary results indicate a high acceptance rate amongst students. The main advantages are seen in the 3D visualisation capabilities and the haptic user interface, which led to increased motivation, better concentration, and faster and more accurate understanding of the learning content. Balancing these positive results were technical and usability issues that had a negative impact on the learning process.