Through the use of ferromagnetic materials within the paint and coatings systems to the metallic nature of the carrier may be omitted. Macro or micro particles, however, have significant disadvantages in such a system. First, they typically have a magnetic remanence, that the coating or paint drying, retains a magnetic "charge balance". Secondly, such particles are not color neutral.

Nanoparticles offer an innovative solution. First, they have over a certain size no more remanence, and secondly they are transparent due to their size. They should therefore be an ideal additive for coating compositions or paints in order to dry them without metallic support by means of induction field.

Of course, the market made a number of competing systems with which induction drying must be measured. Widely used systems are:
- Flue-curing
- Electric IR drying
- Gas IR drying
- Microwave drying

However, this has decisive disadvantages, especially with the application in thin layers. The limit is at the required high electric field strengths the ionization and plasma or spark discharges and possible local overheating of the use significantly. The induction drying offers some advantages:
- Accurate controllability of the heating and drying process
- Small space requirement
- Lower energy demand

**Project period: 01.11.2009 – 28.02.2011**

**Remarks**
The research project IK VF 090043 was funded by the German Federal Ministry of Economy and Technology BMWi.