IRT plans and designs broadcast networks since decades on behalf of the public broadcasters in Germany, Austria, and Switzerland. Since a few years IRT offers such services also to interested parties outside the circle of IRT’s associates.

Our frequency management engineers have long-standing experience, not least as delegates of all relevant broadcasting planning conferences. In this context it shall be mentioned that we gladly support our clients also in co-ordination procedures.

IRT’s services in the area of frequency and network planning cover all broadcasting frequency bands in accordance with the ITU Radio Regulations and other international frequency agreements.

In order to fulfil the high requirements of our customers we developed our own software tools – among others the well-known frequency planning software FRANSY and IRT’s renowned 2D und 3D wave propagation models. FRANSY and the wave propagation models are available to interested parties for licensing. The tools were developed and are steadily improved for planning and designing analogue (AM/FM/analogue TV) as well as digital (T-DAB/DVB-T) terrestrial networks.

Many of the standard planning methods for COFDM systems applied in broadcasting (T-DAB and DVB-T) have been developed at IRT, e.g. treatment of SFNs, network gain, and self-interference.

Our coverage analyses use the latest ITU Recommendations for wave propagation and IRT’s own propagation models (2D and 3D). The latter consider terrain and morphography data as well as population density data.

The frequency plan synthesis tools are based on various methods, among others on the OSA method (Optimisation by Simulated Annealing).

Furthermore, we offer to perform studies related to the sharing and compatibility of broadcasting services with all other radio services.
Fig. 1: T-DAB coverage prediction, indoor reception, 3D model, city of Munich

Fig. 2: DVB-T coverage prediction, fixed and portable indoor reception, Olympic Tower transmitter, Munich

Fig. 3: DVB-T-coverage, 2D and 3D field strength prediction model, Lower Engadin, Switzerland

Fig. 4: Coverage analysis, theoretical transmitter networks