

Coordination Between the Broadcasting Field and R&D Operations



Masato KAWAGUCHI, *Executive Research Engineer, NHK Science & Technical Research Laboratories*

Know-how in the Field Derived from Mastery of Principles

One of the most critical situations in which engineers are required to show their ability in the field of broadcasting involves "coming through" when a problem occurs. For example, in the case of television coverage that cannot be redone, we must somehow figure out how to get it to a point suitable for broadcasting, even when using corrupted videotape. We may even make seemingly reckless attempts to reproduce images from an abnormal recording, by bending the tape to apply stress, or adjusting the tape head rotation speed to an irregular one. These approaches, which would usually result in picture deterioration, are not performed without forethought. This is know-how obtained through out picture quality improvement efforts.

One of the programs commemorating the 50th anniversary of TV was a relay broadcast from Antarctica. Hi-Vision (HDTV) broadcast from the location, succeeded through the efforts of an engineer from the NHK Broadcast Engineering Department who cut and brazed a cracked waveguide tube. This feat was made possible because the engineer was thoroughly familiar with the system principles involved. Even in this digital age, such in-depth knowledge should be regarded by engineers as "natural," and as something to acquire and strengthen.

Coordination with the Broadcasting Field in the Digital Era

Digitalization of broadcasting has brought about more versatile broadcasting services than were possible in the analog broadcasting era. It is believed that broadcasting in the digital era will continue to evolve. This necessitates that we push to develop applications for new services, and accelerate research and development.

Research is meaningless if it is not shared. Examples of promoting our research, and then

applying a study's results to the field, include the "advanced image-based virtual studio" and the "intelligent robot camera," which have recently started to be used in broadcasting. These examples are also among the accomplishments derived from the revitalization of exchange between broadcasters in the field and STRL staff. STRL's technologies hold promise not merely for new video effects but also for business reform.

Recently, I spoke with some NHK directors whom I have known for a long time. Their requests included the development of technology on which a new business model could be built, such as a medical education system using video technology. They weren't only interested in research directly connected to broadcasting like an ultra-small fiber optic camera. In this digital era, a variety of advancements can be made by coordinating with people in the field.

However, this deeper cooperation requires more than simply responding to requests from workers in the field. For instance, for studies on metadata describing multimedia contents, it should involve metadata production carried out in tandem with contents production. This would entail, in addition to description items and data format studies, a detailed examination of the program production operation and enough insight to assess the essential merits.

As I have mentioned, to coordinate successfully in this digital era between the different parties in broadcasting, it is increasingly important to go a step further by communicating meaningfully and purposefully.