

# Telepresence production for working at a distance in a digital networking production system for multiple digital media – New challenges and possibilities for independent workers

An article by

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## Introduction

To illustrate my main goal for this presentation I want to tell you a story;

*During summer 1999 I visited the beautiful Greek island of Crete. At a place called “the mills valley” I met a radio producer that for many years had transmitted his own popular radio programs on the medium wavelength. “Now”, he replied, “there are no listeners left”. He still has his production system and competence up there in the valley but the channel to the listeners had changed. To avoid moving from his home he had started a small cafeteria.*

## A scenario:

A Greek printing house has got an order to produce information and learning material for both paper and electronic publishing. For the electronic publishing they need “the voice” well known for people over 40. They place an order to a famous “radio reporter” and his networking studio on Crete Island. The text is sent to him by email and a videoconference is scheduled between the producer and the reporter directly into the sound production facilities. The expression needed for the voice recording is shared and other production details are discussed. After the meeting “the famous radio reporter” produces 4 versions of the text and delivers it to the networking media server at the printing house. The voice is edited and implemented in the interactive media the next day. They shall also make a Norwegian version of the product.

## This leads to a lot of questions:

- Can a media industry in rapid change reach competence through Internet?
- Is it possible for the media company to create, monitor and manage a digital workflow of multiple media products on the net?
- Is it possible to have a standard for all types of digital media elements?
- Can we trust the Internet as a carrier for professional production?
- Security on the Internet, is it good enough?

I will focus on my experience so far and let the questions be open and unanswered.

## Communication technology and structures in rapid change

The development of telecom technology has made it possible to use the “old” copper wires for advanced digital media communication. Of course broadband technology with fiber optics and radio solutions makes it even better. Presence can be produced by using multi-way television and the presence can be combined with a lots of other networking production tools. In my research work tests has been made for a lot of different media production when working remote. Production facilities/laboratories were connected to networking applications and test productions were carried out.

## One technology description - presence production

In my research work I focus on “presence production”. The products of producing presence might be “trust building” and other complicated “human to human” communication. The technique is based on two way or multi-ways television combined with remote controlled devices and tools for the Internet. Experiments have been carried out to investigate the use of “presence production” in several different phases of digital media workflow. The carrier has mostly been ISDN technology using the copper wires from the telecommunication central to the customer. ADSL technique is now also a good alternative. Other technologies are also entering the telecommunication market with greater speed and stability for serial digital bit flow. Broadband techniques based on fiber optic cables and satellite systems opens up for professional use of Internet for streaming media and connected employees in “virtual” media production organizations.

The sound and picture is heavily compressed to 128 kbps through a "codec" unit and usual consumer television monitor and a remote controllable camera are being used. Screen number two on the desktop workstation is connected to the ”codec” for easy distribution of the data screen. Both remote and local workers can control cameras and the selection of sources.

## Research work

A practical test where carried out between 3 different “spaces”: The Royal Institute of Technology (KTH), Sweden, Gjøvik College, Norway and the company Video Öst, Norway. The research goal was to investigate the process of producing moving picture and sound at a distance on the net. The product was a television spot for a children program in Norway. A videoconference system was installed at the ordering company Video Öst. The producer and designer were at KTH, Sweden and a student group was working in the Media Laboratories at Gjøvik College. The research project group met just once physical during the test period. The first period of brainstorming, using presence production and the Internet processed script development and storyboarding. The ordering company approved the product during the production process by being contacted through the net for preview processes.

In the next period of production, processes like location, audition and lighting were communicated at a distance by using combinations of techniques. The main framing and actor instruction were given directly to the studio by using presence production. In the last period of production the edited film were heavily compressed and sent through the Internet for previews and adjustments. Graphic designer and animation processes were shared in real time so the producer could comment on the production design. Shared screens and multi way video and audio were combined to establish presence and communicative spaces. The final broadcast product was delivered on a cassette, as there was no capacity to transfer the full digital product on the net at that moment.

## Business benefits

The experiences from this first test were positive. Less time was used in the most expensive parts of the production process like the framing with actors, photographer, sound technician and script. The meetings are more efficient when done at a distance because the team often prepares the speeches more carefully. The access to the central production system saved a lot of travel cost and competence could be reached in an effective way. The production time was shortened because of digital preview distributions on the net and the possibility for ad hoc meetings in the project group.

## Conclusions

In the newspaper industry management systems are developed based on the Internet as the main carrier. Production management systems for net based multiple media production will be developed based on standards. The networking digital laboratories must be architecturally and technically built for working with distance technique to get a better presence production and technology transparency. Still the test showed that complicated creative processes could be shared at a distance. Also hardware production system could effectively be connected from remote.

## The presentation as a test

Two-way networking television will be used between me, at the Royal Institute of technology (KTH), Stockholm and the moderator, Hilding Sponberg, at Gjøvik College in Norway to publish this presentation. The band-width used will be 256 kbps (4 copper wires) for the two way television and the publishing standard will be MPEG4 that can be seen by using Microsoft Media player (freeware). The packaging of the published product will be done in real time to the Internet and a text feedback to us could be possible. This time we choose to publish the presentation on demand.

**Link to the presentation stream on the Internet:** <http://128.39.140.149/>

Go to recorded meetings

**Password: miws**

## Links, addresses and references

1. <http://w3.hig.no>
2. <http://www.gt.kth.se>
3. [clausk@gt.kth.se](mailto:clausk@gt.kth.se)
4. [hilding.sponberg@hig.no](mailto:hilding.sponberg@hig.no)
5. <http://w3.hig.no/~hildings>
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12. Gjøvik College, Norway and the media lab.: <http://w3.hig.no/grafisk/mainnorwegian.html>.
13. Hilding Sponberg, mentor: [hilding.sponberg@hig.no](mailto:hilding.sponberg@hig.no), <http://w3.hig.no/~hildings>.