Times have changed in the congress solutions and discussion systems arena. Openness and transparency is the mantra for public meetings. Private meetings also demand remote access and ease of use. Geny Caloisi talks to the lead manufacturers in this industry to find out the latest.

Can you hear me clearly?

Conference systems are used to increase speech intelligibility and clarity. The quality of the equipment and technology used is vital in achieving this. However, as John Hunnisett form congress solutions specialist Sound Advice points out: "If you use any of the equipment blindfolded you would not be able to tell the difference between one brand and the next."

The manufacturers' solutions available in this market differ on type of network connections; the sophistication of the user interface; integration with personal devices and the kind of data-sharing they allow.

All interviewees agreed that simultaneous translation is a growing requirement.

The main trend is a move towards wireless and paperless - sometimes even participant-less with people attending the meeting virtually.

Wired or wireless?

Wireless solutions in the congress scenario provide many advantages: they can be installed in historical buildings without upsetting the conservation authorities; they allow more flexibility in the way the room is used and

" *The main impact of BYOD, is people that bring devices that work on the 2.4GHz ISM band... This can affect the RF wireless conference system.* "
- Christy Fang, Taiden

are quicker to install. Disadvantages circle around signal disruption, with the consequent drop in quality and data leakage.

Sound Advice's Hunnisett explains: "We've been in this industry for over 20 years. The buildings we work with are many times grade 1 or 11 listed and we have to be very careful what equipment we install and how. Having wireless discussion systems is ideal, but bandwidth is an issue at the moment."

Most wireless systems use radio signals in either a 2.4 GHz or a 5 GHz range or channel. "2.4 GHz is the most common and it gets very over crowded," continues Hunnisett, "Some manufacturers are now launching new products that work in 5 GHz. Channel swapping is also an option to avoid disruption."

The GHz range of a wireless radio only partially relates to the speed of a wireless network. For example, 802.11a Wi-Fi hardware runs at 5 GHz but supports the same maximum data rate of 54 Mbps as the standard 802.11g network that runs at 2.4 GHz. The 802.11 is an IEEE standard of wireless network communication. 802.11ac is a new Wi-Fi technology standard developed to provide gigabit speeds, which some forecast will be available by 2015.

Mobile phones and tablets compete for bandwidth at conferences. There is a growing quest for connectivity in a multitude of devices in addition to an insatiable appetite for speed.

Andy Niemann director customer relationship management at Sennheiser Integrated Systems Division >

< says: "Bring you own device (BYOD) is a major trend that is already causing difficulties for IT departments in both corporate and government environments."

Personal devices have another influnce. Attendees expect is to be able to use congress equipment as easily as they use their mobiles or tablets – and connect to them when possible.

Sennheiser's latest offering is the Sennheiser ADN discussion system and it comes with wireless remote control from an iPhone or iPad. The system's reliability comes from its ring-cabling architecture. With an iPad or iPhone app, users can regulate the volume as well as being able to switch on/off the built-in features such as recording or opening and closing the microphone channels.

Christy Fang, Taiden's general manager of marketing overseas expands: "The main impact of BYOD, is people that bring devices that work on the 2.4GHz ISM band RF devices to connect over Wi-Fi, Bluetooth or ZigBee. This can affect the RF wireless conference system. Manufacturers can improve the rapid frequency degeneration of the system in order to enhance the viability of anti-jamming in such a crowded 2.4GHz ISM band circumstance as we have nowadays, but we can not completely avoid the 2.4GHz interference issue."

One of Taiden's answers to this is its HCS-5300 digital infrared wireless conference system, which makes up the shortfall of RF conference system.

Another company that thinks infrared is the way forward is Audio Technica. The company introduced the use of infrared technology many years ago for karaoke venues in Japan. Since 2009 it has used it in the congress market providing high end microphones and developing a reliable infrared network.

Alex Lepges, technical wireless engineer at Audio Technica explains: "An infrared signal is light and it behaves like light: it has a limited range, it can be reflected over flat surfaces – such as walls; there is no limit to the number of infrared units you can have and it does not interfere with LAN networks. What this means in terms of a conference centre is that there will be no information leakage and the same technology can be used in neighbouring rooms without interference."

Ones and zeros or waves?

The congress sphere is one of the few areas of the AV market that has not gone totally digital. There are certainly some applications where the implementation of digital solutions has advanced, such as video conferencing and video recording solutions. Still, many congress devices are analogue. Some argue that with analogue sound continuity is guaranteed, even when weakened. With digital it's just on and off.

Sennheiser for instance, offers both analogue and digital audio products and says that it has no intention of turning away from analogue product solutions yet.

Taiden's core product range is digital but the company also offers an economical conference series, which is analogue.

Antonio Ferrari from RCF says: "We currently have three conference and discussion systems in our Forum congress catalogue: Forum 9000; Forum 6000 and Forum 3000. Each of these has different levels of complexity in terms of management and control but they all have the same audio quality level. In fact they are, from the more to the less sophisticated, fully digital, analogue audio with digital control and fully analogue. We also have a fully digital wireless simultaneous interpretation system (Forum 2000), running on radio frequency with double data encryption just two antennae can serve 10,000 square meters." >

Top to bottom – Sennheiser's
ADN microphone unit, Bosch CCS 900,
RCF Forum 9000, Televic D-Cerno

< Bosch sees digital as the way forwards. Murat Keskinkilinc explains: "All our conference systems are digital, except the CCS 900 Discussion system. The CCS 900 is our entry level market discussion system which is intended for small applications like small town halls and small courtrooms. This segment is more price sensitive and there is no direct need for a digital system as the requirements (basically discussion management) can be met easily with analogue systems. Still in our CCS 900 discussion system we have two very important digital features. One is digital acoustic feedback suppression, which makes it possible to increase loudspeaker volume in the system without having howling, this is especially important as this system is targeted for smaller environments. The other very key digital feature is the built in digital mp3 recorder in CCS 900. This makes it possible to digitally record the meeting audio on an SD card. This can be used for archiving the meeting digitally on a network drive or internet, or you can give the recording to an assistant to make minutes of the meeting."

Televic Conference instead has gone full digital. Televic's product and marketing manager Kristoff Henry says: "All our products are digital. Even our entry–level product. When we started developing D-Cerno, we consciously chose to go digital."

Televic's D-Cerno is a digital family of products for conferences including the delegate and chairman discussion units and the central units, designed for small to medium-sized meetings. D-Cenro comes fitted with Televic digitally shielded microphone technology, which the company claims, makes its products immune to interference from mobile phones.

Matthias Holz, manager of the conference division at Beyerdynamic remarks: "Digital is not only a trend, it gives manufactures and end-users more product options. It also provides benefits for application that we never had before."

Thomas Frederiksen, Danish Interpretation Systems (DIS) general manager, adds: "DIS does not develop or produce any analogue products anymore."

What does the future hold?

Manufacturers are seeking more intuitive and familiar technology for congress solutionst. No more push down buttons, now is better to have touch or swipe. Data access from everywhere, decentralised translations and avoidance of paper clutter is also a must.

When it comes to 'paperless,' Taiden and Televic are leading the pack with touch screens and user-friendly functionality. Televic has iCOS, an interactive conference solution software for delegate units and server. Taiden's HCS-8300 paperless multi-media congress system, comes integrated with a 10" colour touch screen, webcam, mic and speaker.

Taiden's Fang explains: "This model is specially designed for high-level meetings. The HCS-8300 is a highly integrated conference system that includes various functions like discussion, voting, sign-in, simultaneous interpretation and file sharing. Based on the Taiden independent intellectual property mMediaCongress platform, the system is never subject to viral infection and is hacker-proof."

Web-casting for open meetings and HD video are on Bosch's radar. Keskinkilinc says: "We are working on a solution for video and data streaming and soon we will extend our product range with the Bosch webcasting solution. In the area of HD video we have introduced an HD Conference Dome and dedicated interface software with our DCN Next Generation system to have automatic control of the camera."

Beyerdynamic's Holtz comments: "We see a trend to save costs by not having translations directly in house. Using video conferencing the interpreter can work from a home office."

Congress solutions are expanding beyond 'four walls'. Access to content on the cloud; more seamless integration with personal mobile devices; HD video streaming and unified communications are the areas where this industry will have to invest in order to continue its growth. ∞