

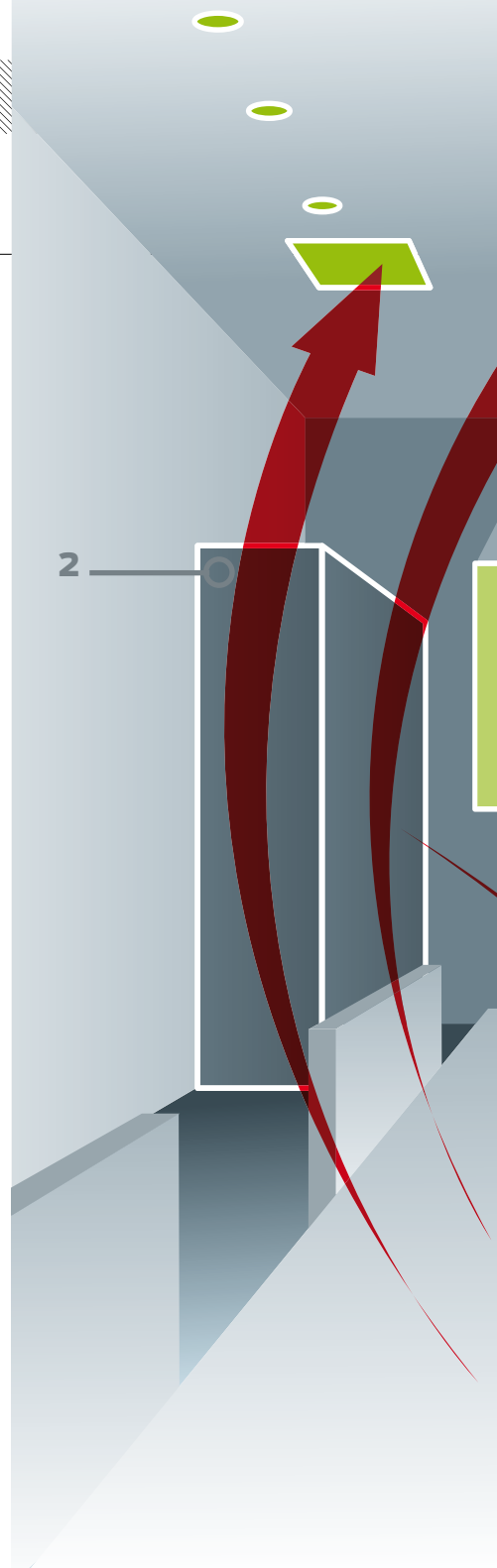
Taking control



Installing and programming control systems needs to be a managed process. Expert *Roz O'Brien* explains how such projects should be organised

1 The touch panel can operate the lights, blinds, air conditioning, computer screens and main screen, all from one unit

2 Control rack houses all IT elements, audio and video players in one easy-to-access location, which helps cut down on the number of wires on show

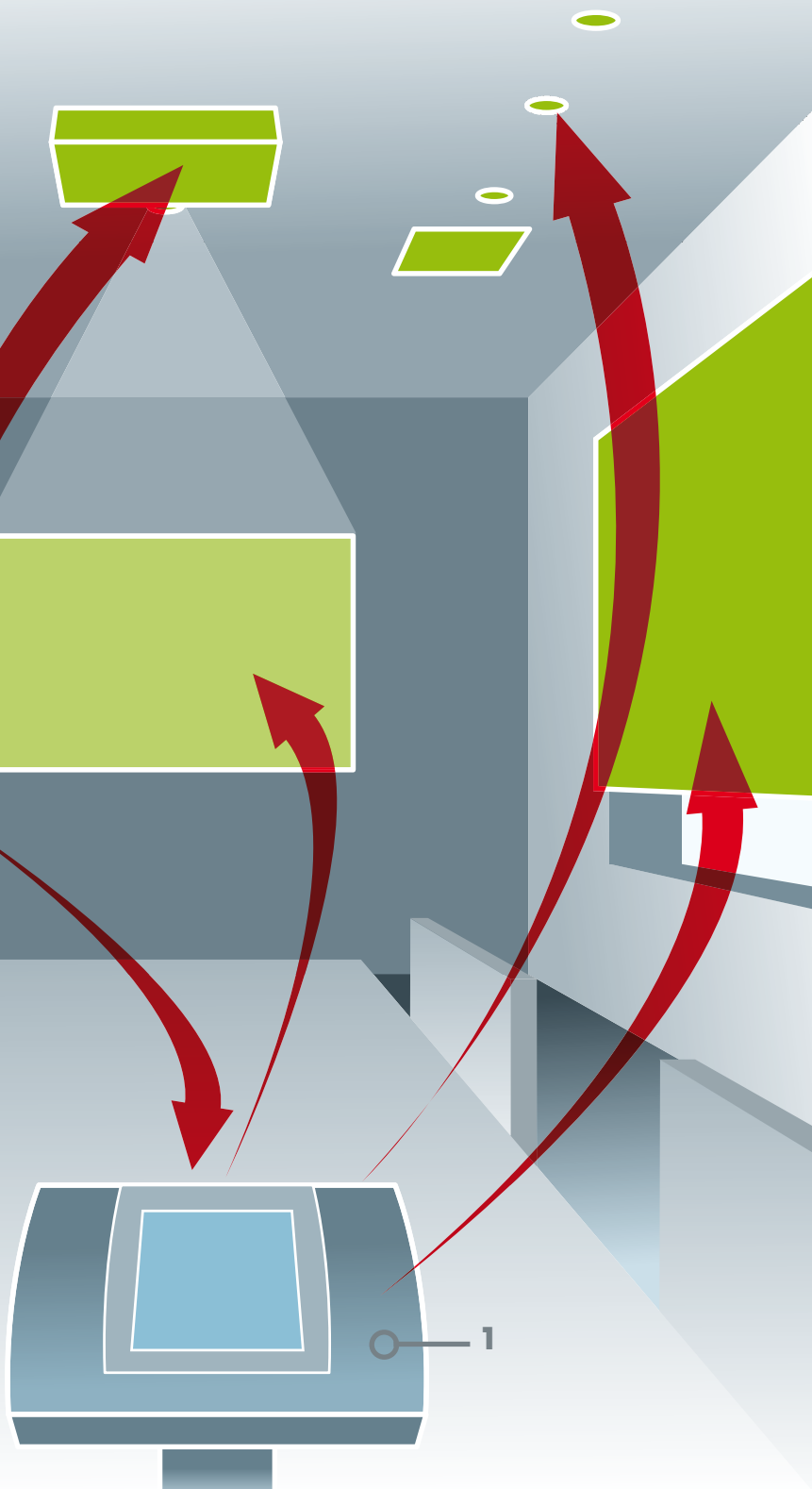


>>> Installing control system technology isn't cheap, so it's important to get it right first time and the earlier decisions are made, the better.

If a business wants to take control of the technology in its boardroom and wants one remote to dim the lights, close the blinds and run the presentation simply by pressing one button, instead of juggling lots of remotes, then a control system could be the way forward.

How is the job specified and who does what?

To deliver the right user interface to the client, the programmer first has to look at the equipment that needs to be



controlled, the number of rooms where it can be accessed from and how many people will be using it.

The programmer will try to make the interface as easy to use as possible. One way to do this is by only providing buttons that are used to control the equipment on a daily basis. There is no point in recreating each product's remote control when many of the buttons are not used regularly.

Installers will set-up the equipment to the optimum levels once furniture and fittings are in place. The user can then tweak the setup to further suit their requirements.

Before work commences, there are certain processes which should be undertaken. After meeting with the

end user to ascertain their requirements, the sales department gives the customer a proposal including a detailed description of what is to be provided, backed up with system schematics showing how the equipment fits together. The scope of work should include details of the make and model of the proposed equipment, as well as the functionality to be provided in each room.

What happens on/off site?

Once the customer has agreed its requirements in writing, a site visit should be done by the operations department. It will confirm its needs and cross reference this with the proposal given to the customer. This

stage is vital as it checks nothing has been overlooked, as well as ensuring everything is deliverable and is as expected.

Often, all the equipment is ordered and racks are built off site. The programmer electronically addresses the equipment and updates the firmware where applicable. Once the program is written and user interfaces designed, these programmes can be loaded up to the control system and tested by the team. Once this has been done, the rack is ready to be delivered to site.

One advantage of building the rack and programming it off site is that any faulty equipment, or programming issues, can be rectified before the equipment goes to the site. This reduces costs and ensures the most expensive equipment does not go to the site until it is ready.

The programmer will then attend the site to re-test the program and make sure everything is working correctly before introducing the user interfaces to the client. The time it takes to do this will depend on several factors, including:

- * Cabling – whether it is correctly wired and connected
- * How the equipment is to be controlled, eg RS232 or IR
- * If the code already exists or has to be learned, in the case of IR
- * Whether the manufacturer will provide the RS232 code
- * The convergence of IT with a-v has gathered pace over the last few years and it is now possible to do some projects solely using IP as a control protocol. This can reduce the cost and is reliable
- * What type of network has to be set up for the touchpanels. For example, RF or via a WAP

Should independent or in-house programmers be used and how much do they charge?

Using an installation company that contracts an independent programmer may be beneficial for the company because they do not have costly employee overheads.

The other option is to use a company which employs its own programmers. This has many advantages for the end user; first it is unlikely that they will be charged for many alterations, unless it is considered a variation to the original project. The firm will often provide the end user with the program source code and can provide on-going maintenance, including changing code as and when necessary.

Cost depends on the complexity of

the job; the number of rooms to be installed, the amount of hardware to be interfaced with, and the labour it takes to install it. Typically, a good programmer will charge between €500 and €700 a day.

How long will it take?

Control system installations always suffer from 'project creep'. This is where users start to visualise how they will use the system and as they do so, requirements may start to change.

These changes should be treated as a variation and managed correctly. These variations should be looked at as separate, mini projects and the clients' expectations need to be managed accordingly. This, however, can affect final payments as customers do not see the project as finished until all variations are complete.

Practical completion should be used as the final milestone with variations and snagging signed off separately after the original scope of work has been delivered. A period for 'bedding in' should be allowed for as the user gets used to the system and final debugging of the system is done.

How much programming is off the shelf?

Much of the programming and design is available as part of the standard product 'kits' and libraries from makers such as Crestron and AMX. This reduces the time it takes to write a program. Although the technology which is being controlled is often at the forefront of innovation and changes rapidly. More often now, manufacturers do not change their RS232 code, however, IR code is always changing.

Manufacturers are doing their bit for the environment by ensuring equipment uses power more efficiently, but this can cause programming issues when equipment can't be switched back on again unless power-save modes are left on.

Good programmers will have a CTS qualification and have a full understanding of a-v products and their connectivity, as well as an intermediate level qualification in either AMX or Crestron language.

They will also have several years of hands-on experience, giving them an understanding of the types of interfaces which have historically worked well for end users and, ultimately, increased the overall enjoyment in using the system. ■

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