INSIDE INFORMATION

FINDING YOUR LOCATION INDOORS CAN BE HARDER THAN IT SOUNDS, NO MATTER HOW MUCH TECHNOLOGY YOU HAVE

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Indoor positioning seems like it should be simple. After all, if you're in a building, someone designed that building, so they'll have surveyed the land and created plans for it before they even started constructing it.

Indeed, in this day and age, they may even have used business information modelling (BIM) technologies to create the building, giving us a ready digital chart to work with. However, as Chris Emery reports on page 40 of this issue, the construction industry can be somewhat resistant to change, so don't rely on there being that information.

That BIM information might even have been used by the most cutting edge of builders and engineers to visualise the building while it was being constructed, so they can literally see using 'mixed reality' technology any problems even before they're built. As you might expect, Trimble is one of those companies already working at the bleeding edge and David Burczyk explains on page 46 both how the technology works and how Trimble is using it for its own projects.

BIM or not, there can often be a difference between what's been planned and what's been built, particularly if later projects augment or replace that work. Even if the plans are as up to date as we could hope, actually finding your position can be harder than anticipated. GNSS relies on satellites being visible in the sky – not the case when you're in the basement – and even if you can work out your x and y, how do you work out your z easily without relying on the installation of expensive radio beacons?

Radio tracking is one option, but when there are hundreds of different things that need tracking, not all tracking techniques are equal. On page 38, Thomas Förste offers a solution to the thorny problem of scalability.

Meanwhile, Jason Dean suggests on page 36 that the best way to get internal positioning information is through crowdsourcing. Should we equip everyone with expensive equipment for this? Of course not – they've already got it, given how ubiquitous the smartphone is. It's got everything from a GPS system to a barometer in it already. However, their accuracy isn't always the greatest and working out when someone's on an escalator or in a lift needs some clever thinking.

I hope you enjoy the issue.

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