

The brief...

The problem comes when we get to a building and we need to make an assessment of the condition that it's in. For us in this country that could be following a fire, or something that has disturbed the physical condition of the building. Sometimes this is when a car has crashed into it, or a tree collapsed on it. In the summer of 2007, buildings were made unstable because of floodwater, particularly the Midlands, South Yorkshire and Humberside. Obviously, overseas where there are earthquakes and the like, buildings can be made unstable in that way.

We need to find out what's going on in there, so that we can take the appropriate action. You may have seen the film 'Backdraft', the one where the fire goes to ground - that can happen....sometimes you're just not sure what's going on on the other side of that wall and one of the biggest hazards to us is the existence of flammable materials or accelerants that we don't know about. So finding what's in there is crucial to our fire-fighting plan. Add to that, people don't always know what's stored in a building, particularly an industrial unit or a factory. Things burn at different temperatures as I'm sure you know and knowing what the temperature is in there is helpful.

Often floors, or parts of floors collapse, but you can't always detect that because of smoke, or it's pitch black. It would be really useful to have some remote device, like a small vehicle that had lots of sensors on it that could tell us things about the condition of the floor, is it stable, is there lots of rubble on it, say from the floor above having come down...and the temperature which is different in different parts of the building.

Sometimes the fire is out and we think it's safe to go in and send in our investigators, but in industrial buildings, the steel girders can have been holding the heat and then when they cool, all the surrounding brick and stonework can be as stable as a house of cards. The human eye can usually detect tell-tale cracks but would you want to be the one to go in there and spot them, because you won't get any warning. That's the challenge of any activity which involves rescue, often someone else is at risk. I'm not saying that we should have robots instead of fire-fighters, but I'm sure technology could help.