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Fire Forecast Technology Could Help Rescue Teams Save Lives

Fires in homes and offices could be tackled more efficiently using technology that predicts how a blaze will spread.

A new technique is able to feed data taken from sensors located in burning buildings into computer models so that rescue services can predict how fires will spread.

The technology could save firefighters valuable time by giving several minutes of warning on how a fire will develop, help them to contain the blaze and minimize its impact.

Simple sensors -- incorporated into smoke alarms, room temperature sensors or CCTV cameras -- can measure the temperature and height of a fire. Sophisticated computer models can then convert these into a forecast of the fire's dynamics.

This technology, known as "Sensor Assisted Fire Fighting", has been developed by researchers at the University of Edinburgh. It allows real-time observation of a fire, with the forecast being constantly updated using information from the sensors. In the event of a significant change in

conditions, such as a window breaking, sensor measurements enable the computational model to adapt the forecast.

The research, published in *Fire Safety Journal*, was partially funded by the UK Technology Strategy Board and the European Union.

Dr Guillermo Rein of the University's School of Engineering, who supervised the study, said: "Firefighters often have to follow their instincts when tackling a fire. This technology could give them the extra information they need to consider more options available in handling the emergency, and reduce lost opportunities or unnecessary risks, ultimately saving lives and minimizing damage.

"However, further research focusing on making the simulation as realistic as possible will be needed before this technology can be put into practice."