Retrofitting Water Mist: Products & Case Studies
UK Water Mist Seminar 2018

Yusuf Muhammad
Co-founder & Design Director
IWMA First Conference in the UK 2007
My background
My background

The innovators: mist system offers a safer way to control fires

The creators of Automist explain how a fine mist can cool and suppress fires more effectively than sprinkler systems, especially when caused by chip pans.

Sir James Dyson backs kitchen taps to save lives and launches 2010 competition

Royal College of Art graduates create fire extinguishing system using water mist sprayed from kitchen taps and plan to launch the product by the end of the year thanks to a £10,000 award from Sir James Dyson.
CHALLENGES FACING RESIDENTIAL FIRE SPRINKLERS
HISTORY

- Fundamentally unchanged since the invention of the first practical automatic fire sprinkler by Frederick Grinnell 1882.
- Fewer than 3% of council tower blocks are fitted with sprinklers.
- Difficulties remain unchanged:
  - Is there adequate water supply?
  - How disruptive will this installation be to building tenants?
  - Will the existing fire-alarm panel handle the new flow alarms, valve-tamper switches, and other electrical devices that need to be added?
Today

• Legislation has focused on new build where the cost can be diluted. Only buildings constructed since 2007 and which are taller than 30m are required to have sprinklers fitted.
• This requirement wasn't applied retroactively (Grenfell Tower, was built in 1974).
• Sir Ken Knight, the author of a report on the Lakanal House fire, said that while there was significant evidence of the effectiveness of systems such as sprinklers controlling fire spread in buildings, it was not considered "practical or economically viable" to enforce the retrospective fitting of fire suppression systems to all current high-rise residential buildings.
• After the Shirley Towers fire in 2010, it cost the council £1m to install sprinklers in three tower blocks.
R&D Boundary Conditions

• Low flow: <6lpm
  – Keep ease of retrofit & water damage stigma

• BS 8458:2015, BS 9252:2011 & UL2167
  – Robust sprinkler fire performance
R&D Boundary Conditions

• Mid-wall mounted head: 1.5m approx.
  – Efficient use of mist (Eureka prize by Prof. Ragnar Wigus)
AUTOMIST SMARTSCAN
• Infrared heat signature is not only from flames
PRODUCT CASE STUDIES
Retrofitting Surrey Towers

- The authority adopted the policy in 2014 following consultation with Surrey Fire and Rescue Service after reviewing its fire risk assessment in light of the coroner’s ruling following the Shirley Towers blaze.
Retrofitting Surrey Towers

- Automist was selected because it is easier to retrofit than other active fire suppression systems. Its wall mounted spray head also meant it was easy to avoid asbestos which is sometimes prevalent in older buildings.
- Runneymede Council has fitted more than 30 of the 95 flats so far (circa Jan 2018).
Protecting Goodridge House

- The Goodridge House is an existing IIIB building with mixed use Group A-3/B. The main floor serves as a museum displaying period specific items that belonged to the house, with office space above.
45m Rule: throughout
Automist reduces arson damage
Exeter City Council

- Automist installed in response to repeated arson attempts, 3 times by social housing tenant
- Coverage provided for living area
- Arsonist set fire and attacked Automist when activated.
Conclusions

• A retrofitable, partial coverage, non-intrusive active fire suppression solution

• Installed by accredited Automist partners

• Used for open layout regulatory compliance
  – Automist: Loft conversions – passive alternative
  – Automist Smartscan – sprinkler alternative
Questions?