

# The History of IWMA



- IWMA = International Water Mist Association
- Founded on 15th April 1998
- Head office in Hamburg, Germany
- Annual conferences since 2001



# The History of IWMA



- 18th International Water Mist Conference will (IWMC) take place in London on 19th & 20th September 2018



During the 16th IWMC in Vienna in 2016

# IWMA is ...



the world's leading forum  
for

- manufacturers
- distributors
- insurance companies
- fire departments
- classification and academic institutions
- users of water mist firefighting systems!



# IWMA is ...



... the 1st and the only organization worldwide dedicated to water mist and related technologies!



# The Structure of IWMA

- IWMA Board of Directors (President Ragnar Wighus and eight further members of the board)
- General Manager Bettina McDowell



IWMA President Ragnar Wighus

# The Structure of IWMA

- IWMA Scientific Council (Chairman Hong-Zeng Yu)
- IWMA Marketing Group
- Over 60 Corporate and Private Members



Bert Yu, Chairman of the IWMA Scientific Council

# IWMA – Aims and Activities

- Organizes the IWMC as a networking platform and knowledge exchange
- Organizes worldwide educational and topical seminars
- Bestows the „IWMA Young Talent Award“



Ragnar Wighus with „IWMA Young Talent 2016“ Daniel Martin

# IWMA – Involvements

- CEN (CEN/TC 191/  
WG10) → prEN14972  
(Chairman Dr. Joachim  
Böke, Minimax)
- IMO International  
Maritime Organization



CEN/TC 191/WG10-Chairman Joachim Böke



# IWMA – Involvements

- NFPA 750 Technical Committee on Water Mist Fire Suppression Systems
- European Commission / Expert Group on Marine Equipment
- Sustainable Fire Engineering



IWMA General Manager Bettina McDowell

# The History of Water Mist

- 1880: F.E. Myers – back pack system to fight small forest fires
- 1978: Lecture Book: „Fundamentals of Fire“
- Late 1980s: Execution of the Montreal Protocol



# The History of Water Mist

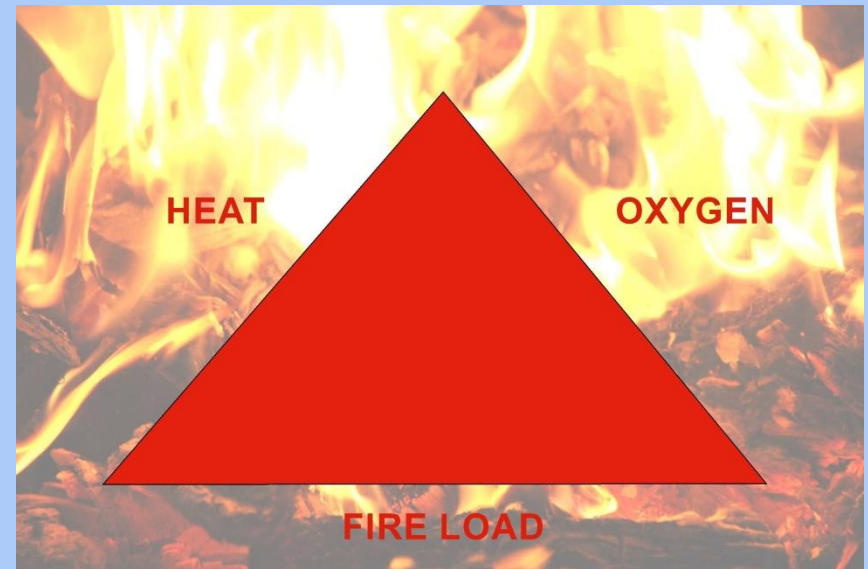
1990: 7th April – 158 people die during a fire on the Scandinavian Star (nearly 50% of all passengers)



# How does water mist work?

A fire triangle consists of three elements:

- Combustible material
- Heat
- Oxygen



# How does water mist work?

Water Mist removes two of these elements:

- Heat
- Oxygen

(Traditional sprinkler only remove the heat...)

- Low Pressure Water Mist: less than 12.5 bar (181 psi)
- Medium Pressure Water Mist: between 12.5 and 35 bar (507 psi)
- High Pressure Water Mist: up to 120 bar (1740 psi)

# How does water mist work?

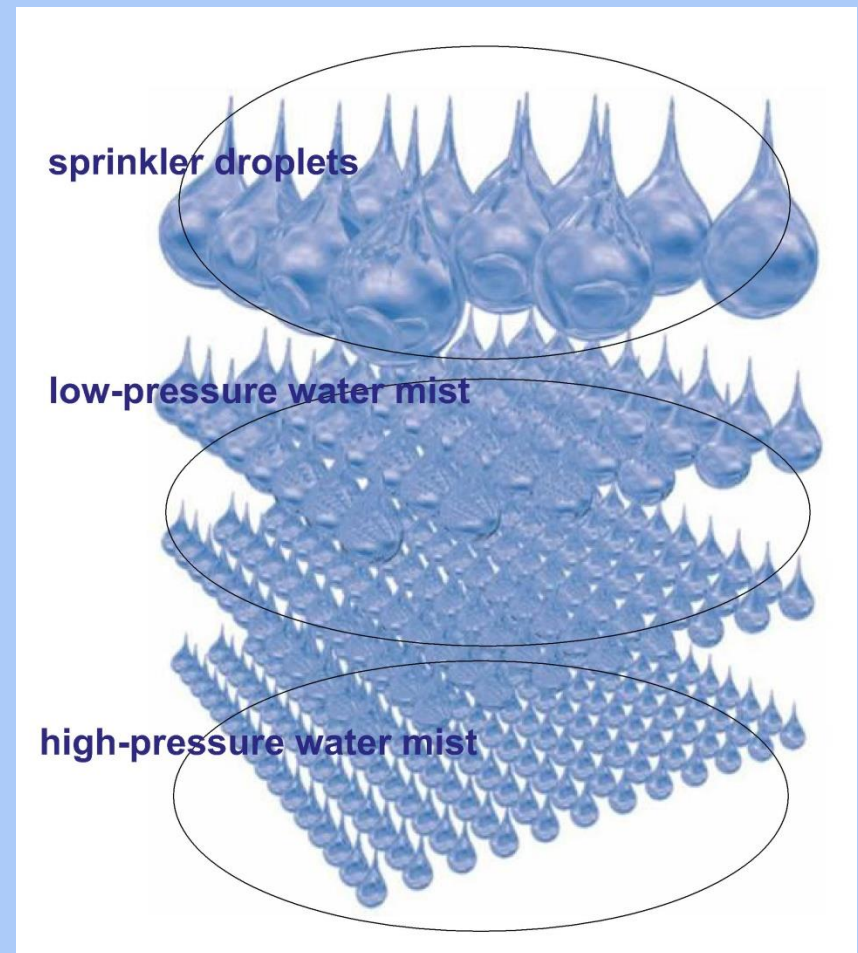
It jets water at low, medium or high pressure through specially designed nozzles. As the system pressure increases the size of the droplets decreases which results in droplets with an altogether larger surface and water turning into steam. Consequently, the system rapidly reduces the temperature as well as the oxygen at the fire front. Thus, energy is taken away from the fire. Due to its cooling effect, water mist prevents re-ignition.

# How does water mist work?

## Definition:

Droplet size less than 1 mm – 1,000 microns

- NFPA say: 99% of the droplets less than 1 mm
- CEN say: 90% of the droplets less than 1 mm



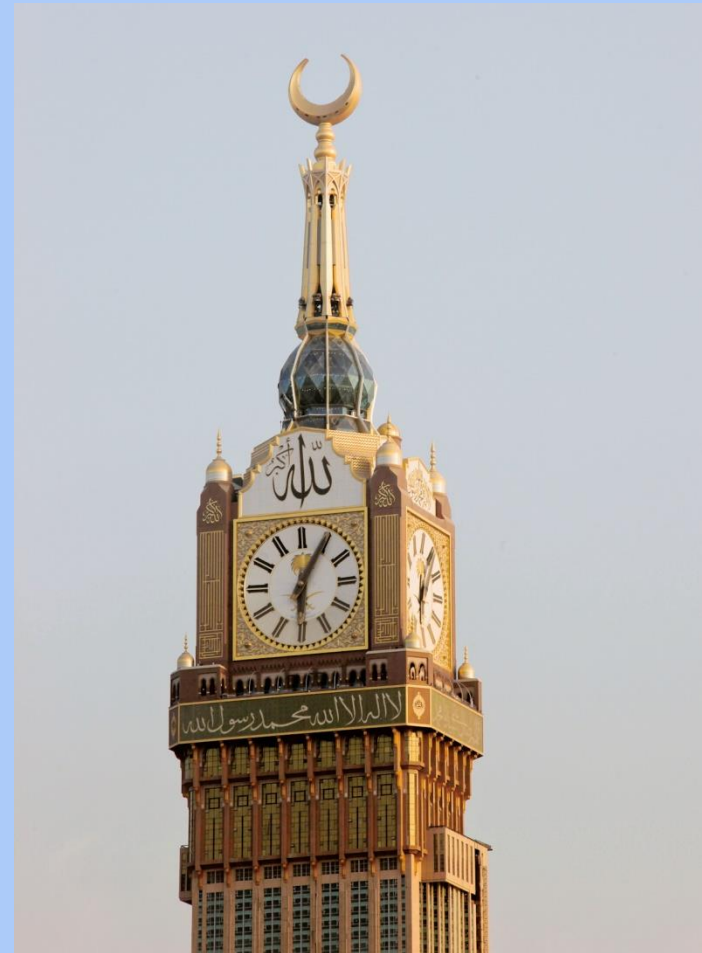
# Advantages of Water Mist

- Less water, less water damage
- Removes heat AND oxygen
- Does not deplete the ozon layer
- Does not contribute to global warming
- Does not harm humans
- Reliable – versatile – flexible
- Thinner pipes ...



# Applications – the Hall of Fame

- La Scala, Milan, Italy
- Elbphilharmonie, Hamburg, Germany
- The Clock Tower, Mecca, Saudi Arabia
- St. Mark's Basilica, Venice, Italy



The Clock Tower in Mecca

# Applications – the Hall of Fame

- St. Patrick's Church,  
New York, USA
- The Hungarian  
Parliament
- The Eurotunnel
- ISS International Space  
Station (portable water  
mist fire extinguishers)



St. Patrick's Church, New York

# Applications - General

- Cable tunnels
- High-rise buildings
- Food industry:  
Industrial oil fryers
- Hospitals, intensive care  
units, care homes
- Museum & heritage  
buildings



# Applications - General

- Libraries & archives
- Data centres
- Hotel rooms and cabins on board of ships
- Saunas
- Machinery spaces
- Etc.



The Bodleian Library Oxford University, UK

# Standards & Guidelines Update

- CEN prEN 14972
- NFPA 750
- FM 5560
- UL 2167
- VdS 3188
- IMO A800 + MSC 265
- IMO MSC.1/Circ. 1165
- The British Standards
- The French Standard
- The Nordic Standard
- The Danish Guideline

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