

Innovations, Challenges, and Heritage: Firefighting in the 21st Century

Modern firefighting faces numerous challenges that require continuous adaptation and development. From historical research to state-of-the-art technological solutions, every aspect of firefighting reflects a blend of tradition and innovation. We will highlight here the issues of cultural heritage protection, technological innovations, voluntary work, and crisis communication.

Protecting Historical Heritage: Challenges and Opportunities

Cultural heritage, as in the case of the UNESCO city of Trogir, brings an additional responsibility. Historic centres, such as Trogir, encounter significant fire risks. Methods such as ARICA, presented in this edition, provide a new way of vulnerability assessment, creating strategies for safeguarding priceless monuments. The ARICA method offers an example of integrating scientific research into practical measures to protect historic cities from fire. The ARICA method, presented in detail in this edition, has proven to be an effective analysis of security threats. It enables the quantification of risks and their comparison with standards, offering a tool for better protection of historic buildings. The use of the ARICA method in the example of Trogir represents not only a technical analysis but also the care for our cultural heritage. When the firefighting community is engaged to protect such areas, they do more than professional work – they serve future generations. Preserving historic cities is a responsibility that encourages us to broaden our research and apply best practices.

Fire Planning Innovations

In this edition, we are also focusing on the creation of a prototype for spatial-temporal analysis of firefighting interventions. The application created for the City of Trogir brings the potential to transform the way fire departments plan their resources. Dynamic visualisation of interventions through heat maps enables the identification of high-risk zones, but also strategic planning of future measures. This innovation creates the unlimited possibilities that modern technology offers to firefighting. By standardising such solutions fire departments across Croatia may become more powerful, with access to tools for faster reactions and more precise planning.

Crisis Communication – Key to Success

In crisis, the clarity and speed of information may save lives. Contemporary research indicates the need for a more professional approach to fire brigades' public relations. Currently, commanders are often the primary communicators during interventions, which can create an additional workload. The appointment of trained public relations experts could significantly improve communication with the media and citizens, allowing commanders to focus on the operational intervention aspects. In crisis, it is essential to communicate clearly and timely to build public trust and enable successful coordination.

Volunteer Firefighters – The Power of the System.

Volunteer firefighters are the backbone of numerous fire brigades. Research on the challenges they encounter has revealed that the incompatibility between private life and volunteering represents a significant obstacle. Yet, despite such challenges, the commitment of volunteers is unquestionable. Support for volunteer firefighters should not only be moral but also organised. This includes adapting the legal framework, better funding, and promotion of volunteering. They are members of the community and a symbol of solidarity and humanity.

Looking Back: The History of Firefighting Foams

Firefighting foams, once a revolutionary means of extinguishing liquid fuels fires, still have their use in firefighting. A look back at their historical development reminds us of the importance of innovation in firefighting and how science is used to save lives and assets. A comparison with today's innovations, such as digital applications and new risk assessment methods, indicates how far we have travelled and how much we can yet achieve.

Conclusion – A View to the Future

This journal edition highlights the need for tradition, innovation, and community synergy. Through historical lessons and modern technologies, the firefighting community became stronger, better prepared, and more resilient. The topics we have covered here are indicator that Croatian firefighters and fire experts recognise the importance of modernisation and preservation of cultural heritage, working at the same time to strengthen the system that serves the community. Firefighting is more than a profession – it is a mission and a calling. Through the commitment and cooperation of all stakeholders, we can ensure a safer future for all citizens and preserve our common heritage.

I invite you to explore the articles and join us in discussions about the future of firefighting.

Kind regards,
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Editor-in-Chief