Nederlands Instituut Publieke Veiligheid

Exchange of Experts

June 2nd-5th 2025

Field report

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Het Nederlands Instituut Publieke Veiligheid is bij wet vastgelegd onder de naam Instituut Fysieke Veiligheid.

Content

1 Objectives

Due to climate change, summers will get dryer, hotter but also wetter. At the same time energy transition and the built environment gets more sustainable, applying new materials and building constructions. Energy transition introduces new risks, like energy storage systems and hydrogen fed fuel cells in the streets and even in the domestic environment. Autonomous electricity grids are being built. These developments will bring new fire safety issues with them, especially related to firefighting techniques and approaches.

NIPV strongly believes in sharing and collecting knowledge with international institutions, because a lot of practical knowledge is in the minds of experts. Taking this into consideration the subject of this exchange is incident command in regard to modern fires.

Over the past years we received a lot of positive reactions from participants from other countries because we fill in a need to exchange and share knowledge about this extensive field of interest (civil protection). We learn from foreign experts the latest knowledge regarding the subject matter. Firefighter safety as well as incident command in regard to modern fires is be the central topic. Besides that we will be working on a solid network of experts that are working on the subject and keep on collaborating after and between physical exchanges.

Experts (of fire safety and civil protection) were invited to discuss and exchange their knowledge about various topics that are currently present in these times. They were asked which subject they would like bring to the table and this resulted in the following topics:

1. Incident command - LNG Truck accident on the highway
2. Incident command and Human Factors in complex incident situations
3. Situational Command Exchange of Experts in the Netherlands
4. Connecting RDI to degree programs in education
5. Standard apartment fire in context to IC training
6. Welsh FRS inspection findings Firefighting tactics - Incident analysis
7. Overpressure phenomenon in apartment fires
8. How the Research and Development function has been established
9. Clay as fire protection for timber structures
10. Structural response under under-ventilated travelling fires
11. Results of research by FSRI into the response to lithium ion battery fires

The main objective of the Exchange of Experts in June 2025 at the Netherlands Institute Public Safety (NIPV) is to exchange developments and ideas regarding the fire safety aspects of the above-mentioned developments in the participating countries.

We anticipate the following results:

1. Participants have exchanged the most recent (practical) knowledge about incident command, occupational health and fire engineering principles regarding new threads (energy transition, sustainable building and EV fires and fires in parking lots) in the participating countries
2. Participants gathered knowledge from each other about the expected fire safety, incident command and firefighter safety issues of modern incidents.
3. Participants have exchanged the present ideas and knowledge in the participating countries about how to deal with these new risks
4. Participants from member states have an opportunity to network and create new alliances
5. Member states can collaborate and have insight in each other's knowledge and ideas
6. Member states can make proposals for more intense collaboration in the future

The benefit is a mutual exchange of the developments in the participating countries as well as to collect the ideas about fire safety consequences and possible solutions to prevent and mitigate fires in the built environment with regard to these developments. The mentioned subjects are developing in Europe and there is no common holistic view yet.

The aim of this field report is to establish the insights gained during the exchange and the knowledge shared. Hopefully many other fire safety experts can benefit from this knowledge through the use of this field report.

The Exchange of Experts Programme is funded by the European Commission.
CN-APELL RO, Romania, is the programme coordinator, being supported by its consortium partner - the General Inspectorate for Emergency Situation - IGSU, Romanian Ministry of Internal Affairs.

2 General programme

The Exchange of Experts took place in Arnhem, the Netherlands, and was organised by NIPV. The program of the Exchange consisted of four days. From June 2nd till 5th 2025, experts came together at NIPV. Following previous years, the Fire Safety Science (FSS) Congress was integrated in the program of the Exchange. In preparation of the Exchange, all experts were asked to provide specific input for the program based on their expertise. This resulted in a the main topics: incident command and fire safety issues related to the changing urban environment as well as several other topics like the energy transition. All experts prepared a concise presentation on their field of work, their countries' developments and challenges of the fire service. A detailed program of the Exchange is presented in chapter 6 and a list of participants can be found in chapter 5.

The description of the presentations in this report will be general. If more information is needed please feel free to contact the host organisation NIPV or the particular participant.

All participants of the Exchange of Experts on June 2rd 2024, including the participants not within the program. From Left to right: Zhuojun Nan, Johanna Liblik, Adam Barowy, Sami Goldbrom, Dan Stephens, Ruud van Herpen, Constantin Ahrens, Pekka Lindholm, Mikko Poutala, Lieuwe de Witte, Antti Kinnunen, Madis Klaassen, Petr Kupka, Ricardo Weewer, Tamara van der Coer

3 Report

3.1 Monday June 2nd | Exchange of Experts

After arrival at NIPV participants were welcomed by Ricardo Weewer, professor of Fire Service Science and Lieuwe de Witte, professor Fire Safety. Everyone shortly introduced themselves, the program was shared and coffee with cake was handed out. The first three experts then held individual presentations regarding their field of expertise. They shared a short presentation on their institutes' current knowledge, developments and challenges regarding fire safety issues.

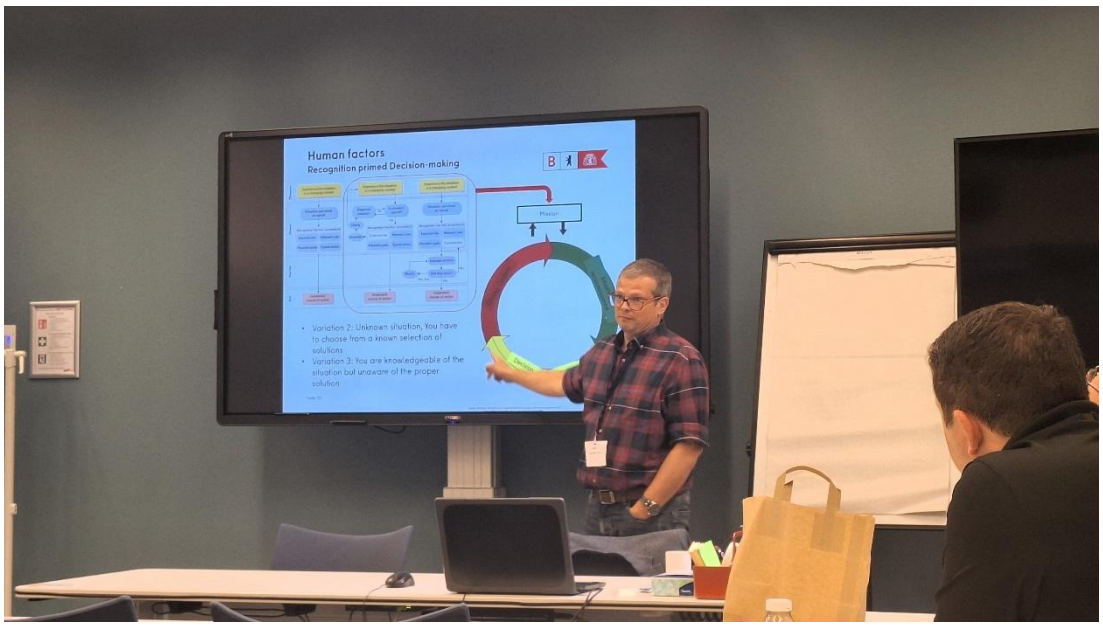
Ricardo Weewer en Lieuwe de Witte welcoming the experts to the NIPV.

Expert presentations

Madis Klaassen – LNG Truck Accident on Tallinn–Pärnu Highway
Madis Klaassen presented a case study of a complex incident in Estonia. The case showed how modern view on incident command including human factors in decision making under pressure was applied very successfully. The Estonian Civil protection academy studied this subject and implemented it into the officers education program.

Madis Klaassen presenting..

Constantin Ahrens - Incident command and Human Factors in complex incidents
Constantin Ahrens presented a crisis case (a total blackout) in Berlin and how the incident command system responded to this complex incident. In this case study again the human factors into decision making under pressure were a key factor in the successful response to this crisis. Apart from individual factors, this case also shows the importance of multidisciplinary collaboration and the difficulties arising from different cultures, languages and experiences with human factors. It is shown that not only structure but also human factors should be taken into account in crisis leadership. It also turns out to be very difficult to perform perfectly. It shows that in complex cases the best solutions are not to be strived for. Society as well as the crisis responders should be satisfied with sub optimal solutions, because humans are not perfect in crisis circumstances.



Constantin Ahrens presenting.

Sami Goldbrom - How the Research and Development function has been established
Sami Goldbrum shared in his presentation how the London Fire Brigade (LFB) has learnt from recent incidents like Grenfell tower and the major wildfire in London two years ago. It resulted in an improved system for organisational learning where a small R&D department connects with all departments inside and outside the LFB in order to learn from each other. Within this frame LFB studies incidents makes reports and draws lessons from them. In that way LFB was capable of making an fast transition regarding wildfire fighting.

Sami Goldbrom presenting.

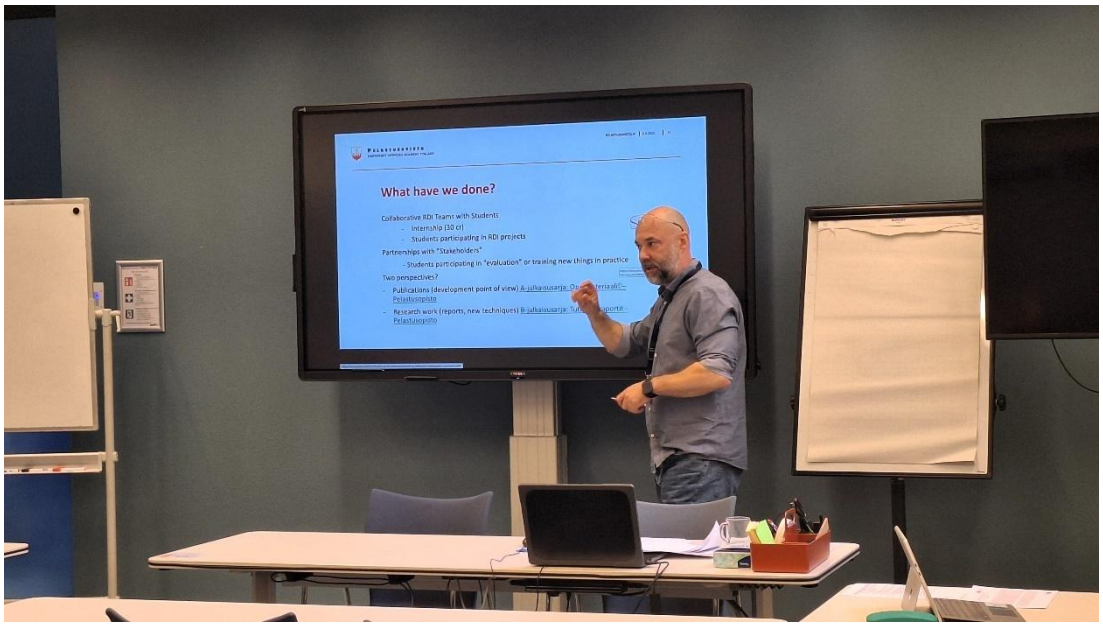
3.2 Tuesday June 3rd | Exchange of Experts

This second day the focus of the exchange included a wide variety of topics. From situational incident command to lithium ion battery fires and firefighting procedures and more. In total eight experts shared their knowledge in their respective field.

Expert presentations

Pekka Lindholm - Connecting RDI to degree programs in education

Pekka Lindholm presents how research and education is connected in the Pelastusopisto Emergency Services Academy Finland. Implementing new knowledge and innovative ideas or procedures in the fire service is a challenge. Carrying out research with the involvement of firefighters seems to be key in the successful implementation of research result in the fire profession. Following the developments in society, especially dealing with new risks emerging, let the reaction be the development of new procedures in the FRS. Sharing knowledge within and outside EU. This is of importance, and there is too little opportunity to do so. This means that individual member states and universities have knowledge available that could be of interest for others without realising that.



Pekka Lindholm presenting.

Arjan Bruinstroop - Flexible Leadership for Successful Incident Management

Arjan Bruinstroop shared the results of research into incident command in the Netherlands and how the results are implemented into practice. The report “situational command in the fire service” is available in English. At the moment, the human factors are at the core of the Dutch incident command system. A safety net is implemented to create a so-called ‘forgiving infrastructure for incident commanders’. This takes into account that, due to human factors in decision making under pressure, there are sub optimal decisions made and probably a lot of information will get lost in the process. Knowing this the safety net creates a learning culture without blaming or shaming, with acknowledgment and understanding the effects of working under pressure.

Arjan Bruinstroop presenting.

Antti Kinnunen - Overpressure phenomenon in apartment fires

Antti Kinnunen is the Development Manager of the The Finnish Association of Fire Officers. Association organizes eg. seminars and training events for fire officers and other personnel in the fire and rescue services to enable them to keep their professionality up to date. The association also carries out numerous projects that focus on developing better ways to do rescue work or promote fire safety. At this work association does a lot of cooperation with different universities and Pelastusopisto Emergency Services Academy Finland. At the moment the Association is especially interested in Incident command and human factors and reaches out to learn from other countries. Not only about the factors that play a role, but also into how to implement these new ideas in practical work of the FRS.

Antti Kinnunen presenting.

Dan Stephens - Welsh FRS inspection findings Firefighting tactics
Dan Stephens presents the results of a study he conducted regarding an evaluation of the Welsh procedures of firefighting. He shows that the Welsh, and maybe even the English FRS needs to reconsider its present procedures. This is recognised in the Netherlands as well. Some years ago it was considered that unvalidated experiences have overruled knowledge, and probably a hard reset is necessary. The Dutch Basic principles, as well as situational command including the human factors offer a good foundation to start the discussion in the UK. The NOG has to be evaluated and adapted.

Dan Stephens presenting.

Zhuojun Nan - Structural response under under-ventilated travelling fires
Zhuojun Nan presented her findings of a study she did into travelling fires in large buildings, or buildings with large hallways. She connected FEM simulations with experimental fire scenarios to investigate structural fire responses. One of the unexpected findings was that the fire may rapidly develop toward the opening and then travel backward along the fuel bad. Most of the heat may be produced near the opening under under-ventilated conditions, especially with small openings and high fuel load densities, potentially leading structural collapse. This was an unanticipated result that may have effect on firefighter safety and effectivity and possibilities of firefighting techniques, especially the interior attack.


Zhuojun Nan presenting.

Johanna Liblik - Clay as fire protection for timber structures

Johanna Liblik has studied clay-based fire protection materials as a very modern way to protect timber structures in fire. Within the frame of the urge to counteract climate change timber is a preferred construction material. However, Timber is combustible, and it is a challenge to find ways to effectively protect the timber. One of the options is to use clay to protect the timber as an alternative to commonly used gypsum plasterboards. Although this is a very good first step, there seem to be some challenge in the fire safety design, if the timber structures are allowed to burn behind the protection layers (i.e. design according to standard fire exposure conditions). If the fire is not properly extinguished, the smouldering could possibly continue and procedure toxic and combustible carbon monoxide gas.

Johanna Liblik presenting.

Petr Kupka - Standard apartment fire in context to IC training

Petr Kupka delves into the subject of how to implement new procedures and technique into the fire service. Interesting to note is that all fire academies in Czechia now are merged into one national organisation with one national fire chief. This, mostly, makes a lot of things easier. As for the fire academy there are a lot of advantages. The education of firefighters is now national. The case presented was a fire in an apartment building where smoke propagation caused people to be trapped. In this case incident command played an important role. Human factors, and knowing how to deal with them and recognizing them as an incident commander is of key importance.

Petr Kupka presenting.

Adam Barowy - Evidence-Based EV Firefighting

Adam Barowy gives an overview on recent studies done by FSRI with special focus EV fires. Knowledge about these fires is increasing by collecting data regarding the propagation of fires outside and inside buildings and the possibility of explosions, the power of the explosions and the danger for firefighters. From there we learn about the challenges regarding a safe response to these fires is.

Adam showed us how EV fires or battery thermal runaways can cause complete garage doors to be ejected from buildings. Also, the idea of putting out the fire with a fire blanket turns out to be not without risk. All the findings of research conducted by FSRI is made into learning videos in order to share the knowledge with the FRS world. More and more we realize that Li-ion batteries are like gas bottles and should be approached like gas fires. When you extinguish the flame, combustible gases (hydrogen, carbon monoxide and others) keep on accumulating and may explode when ignited and in the right composition with air.

Adam Barowy presenting.

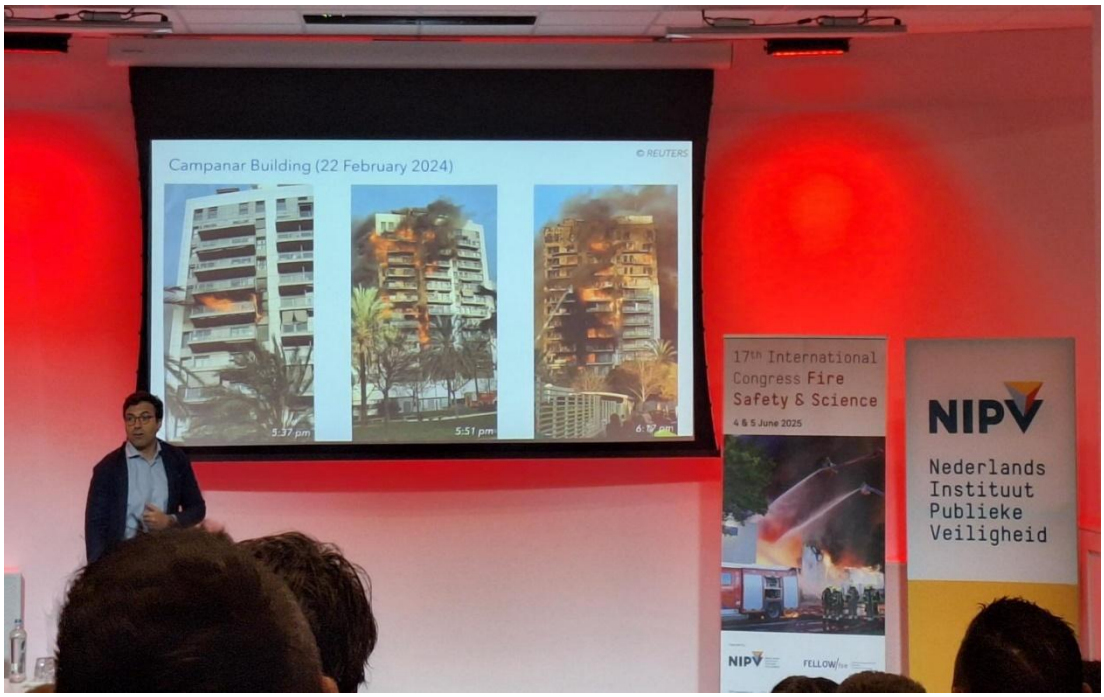
3.3 Wednesday June 4th | Plenary presentations

On Wednesday the 4th June the exchange of experts program was integrated with the Fire Safety Science (FSS) Congress, held at NIPV in Arnhem, the Netherlands. The following descriptions contain all plenary presentations during those days, as well as the given workshops in the afternoons. About 220 participants from various countries attended the congress. Professor Lieuwe de Witte welcomed everybody and set the goals and themes of this event.

After the introductory speech Lieuwe gave the floor to the chair of the congress, Harm Balk managing director Safety Region Kennemerland. In his opening speech Harm stressed the importance of this congress and sharing knowledge about the fire safety in regard to the challenges of sustainability and climate adaptation. He introduced the program and wished everybody an interesting congress.

3.3.1 Facade fire spread in residential buildings

Christian Maluk, technical director, DAMA Engineering Consultants.
The presentation covered key aspects related to fires in residential buildings, focusing on the spread of fire and smoke through exterior facades. It explains how fires can spread through facades, highlighting the influence of modern facade design and construction. The presentation examined how these factors impact the fire strategy of a residential building, considering fire safety measures, provisions, and contingencies that can be implemented to manage such situations. Additionally, it provided case studies to evaluate events involving the spread of fire through facades.



Christian Maluk presenting.

3.3.2 Evolving London build environment from firefighting perspective

Sami Goldbrom, Group commander, Research & Development, London Fire Brigade

Goldbrom spoke about London from 1666 and the Great Fire of London, its impact on the built environment then to now, the new landmark high rise towers and everything in between. The complexities of operating with ever changing challenges from alternative energies to climate change, are present 24 hours a day. He spoke about what has been learnt about wildfire in the rural urban interface and how climate change is bringing new challenges to our fire service in protecting our (urban) communities.

Sami Goldbrom presenting.

3.3.3 Firefighting under war circumstances

Oleksandr Lazarenko, Lviv State University, Ukraine

Due to the current circumstance in Ukraine the fire fighter colleagues did not get permission from their minister to travel and therefore could not participate physically. Oleksandr was willing and able to present the Ukraine situation via and online connection.

Since the war started, Ukrainian firefighters and rescuers have changed their approach and rules of firefighting because of the constant shelling and bombing. The war greatly impacts the organisational system of civil protection and the whole functionality of the emergency management system. Oleksandr showed how the Ukrainian system adapted to these circumstances and manages to successfully deal with minor and major emergencies caused by the war. The risks and incidents that these firefighters deal with on a daily bases cannot be compared to anything we know. It was a very notable presentation with movies and photos about FRS colleagues working under severe physical and mental conditions that impacted everybody in the room.

Oleksandr Lazarenko presents online.

After this presentation Harm asked for a minute of silence in the room to show respect to all Ukraine fire fighters and all others within the country living in war circumstances.

3.4 Wednesday June 4th | Workshops

After lunch the congress continued and there were two rounds of workshops available. Every round had at least one workshop available in English.

3.4.1 Results of research project on UHP extinguishing systems for fires in batteries of electric vehicles

Henk Brans and Tom Hessels, researchers, NIPV

In June 2024, the NIPV, together with various partners, conducted fire tests with two electric vehicles. These tests assessed whether the use of an ultra-high-pressure cutting and extinguishing system (UHD extinguishing system) is effective in stopping the propagation of thermal runaway in the battery pack. During this presentation, the researchers took the participants through the results of the research.

3.4.2 When water goes up in smoke: experimental research into the effect of the 3D pulse method and the arc method on smoke cooling

Linda Wolfs, researcher, and Rijk van den Dikkenberg, projectleader, NIPV

At the congress the results of the recent smoke cooling experiments will be presented. The two methods used were 3D cooling and arc method at different flow rates.

Linda Wolfs presenting.

3.5 Thursday June 5th | Plenary presentations

In the morning, two presentations were given, followed by the presentation and award ceremony of the NIPV-VVBA Thesis award. In the afternoon there were workshops.

3.5.1 Overview FSRI research

Adam Barowy, Lead Research Engineer, UL FSRI

Highlights will be presented from FSRI's research areas: Fire Dynamics, Fire Modeling, Firefighter Health and Safety, Li-ion Battery Fire and Explosion Hazards, and Wildland-Urban Interface Fires, as well as an introduction to FSRI's development of the National Emergency Response Information System (NERIS). Each area will cover a recap of recent accomplishments, highlights, and objectives for 2025+.

3.5.2 Learning from fires - Fire safety of housing with care

Johan van der Graaf, senior researcher, NIPV

Due to the ageing population, elderly people are increasingly living at home instead of in a care institution. Over time, however, many people can become less self-reliant. This leads to concerns about their ability to live safely at home and whether there is sufficient help available in the event of a fire. Dutch building regulations set specific requirements for homes with care. In these homes, the care provider is partly responsible for fire safety and emergency assistance. The question arises whether these regulations sufficiently take into account the necessary help in the event of a fire for (elderly) residents. The NIPV recently investigated a number of buildings to assess whether the existing fire safety measures are sufficient for the residents. In this presentation, Johan van der Graaf presented the findings from this research and discuss the preliminary results.

Johan van der Graaf presenting.

3.5.3 NIPV-VVBA Thesis award

Presentations by the nominees and award ceremony.

The NIPV and the VVBA (Association of Fire Safety Advisors) annually reward the best bachelor's or master's thesis in the field of fire safety with the NIPV-VVBA thesis prize. The fact that the 'next generation' is concerned about the fire safety of the energy transition is evident from the submitted theses. The nominees in alphabetical order were:

- Carmen Gucheaar, TU Delft: Fire safety of vertical greenery systems
- Merel Schouten, TU Eindhoven: Fire behaviour of vertical green system vegetation
- Max Verbruggen, Hogeschool van Amsterdam: Legislative and technical requirements for applying gravity-feed sprinkler systems in high-rise buildings

The nominees presented their thesis at the FSS conference and then the winner was announced to be Merel Schouten. She wins a €1200,- prize for further education.
Merel's thesis tackles a highly relevant and increasingly important topic in fire safety: the fire behavior of vegetation used in vertical green systems (green facades). As these systems become more popular in sustainable architecture, understanding their impact on fire safety is essential. What sets this thesis apart is its strong scientific character. It combines experimental fire tests with advanced computer simulations using Computational Fluid Dynamics (CFD) in the Fire Dynamics Simulator (FDS). This dual approach provides a deeper insight into how vegetation behaves during a fire and delivers valuable scientific data that can support future research.

From left to right: David den Boer (VVBA), Max Verbruggen, Merel Schouten (winner thesis award), Carmen Guchelaar en Ricardo Weewer (NIPV).

3.6 Thursday June 5th | Workshops

As on Wednesday, after lunch there were two rounds of workshops available.

3.6.1 EV and battery fires – FSRI research

Adam Barowy, Lead Research Engineer, UL FSRI.
After the highlights from FSRI's research areas were presented in the plenary presentation the workshop dove deeper into the data.

Adam Barowy presenting.

3.6.2 Fire safety in solid timber construction

Joost Ebus, researcher, NIPV
The NIPV has conducted research into the action perspective for a fire brigade deployment in sprinklered buildings. This research provides valuable information for incident control, risk management and professional competence, and is in line with the existing stock of sprinklered buildings. However, it also raises the question: if we were to redesign the sprinkler system, with a view to a successful fire brigade deployment, what would we want to do differently?

Joost Ebus presenting

4 Conclusions

4.1 Evaluation of objectives

As the host of the Exchange of Experts we are proud to say that the results that have been anticipated before the start of the exchange are achieved.
In this event, participants have been able to exchange the most recent practical knowledge about incident command, research and development approaches, energy transition related challenges and sustainable building developments in the participating countries. They have gathered knowledge from each other about the expected fire safety issues and the present ideas about how to deal with these new fire safety risks. New alliances have been created and the opportunity to network has been successfully taken by the participants. This has been the start of new proposals for collaboration in sharing knowledge or future research.

4.2 General conclusions

Participants shared experiences and knowledge regarding the subject, had discussions and presentation from the participating member states. We concluded that in the participating member states the challenges are relatively comparable. Human factors regarding incident management was recognized as an important, if not most important topic in further developing and improving incident management, with special focus on decision making under pressure. Introducing stop and think, mindfulness or tactical pause is key but also difficult to train and implement.

A positive and motivating conclusion from this exchange is that there is a lot of collaboration happening between Universities within the participating member states regarding research for the FRS. The exchange of experts program can serve as a good initiator of this community to expand beyond the borders of the different states and should therefore be continued next year.

4.3 Other conclusions and takeaways

- The participants created a strong bond and were able to extend their networks in order to keep on sharing experience and knowledge.
- FRS culture, multidisciplinary incident management are important factors in facing the challenges of the future.
- Participating member states face challenges in maintaining to professionalism and keep up with fast developments in societal safety and response of the FRS to these developments. Regarding the little time available to maintain skills and knowledge participating member states have developed different systems.

- Some participating countries notice that the profession has become too difficult and there are non-validated experiences that drove FRS away from the basics.

- Sometimes a hard reset is necessary to get bac to basic principles like the fire triangle. Some of the participating countries have started or planned to start top make that reset based on research done among others by NIPV.

- Special notice has to be given to the decision making under pressure, where the recognition primed decision making may not always be the best advisor. Introducing top and think, mindfulness or tactical pause is key but also difficult to train and implement.

- Participants shared information about their educational system, how the fire schools work and are organized, and also interesting a Fire Officers Association in order to maintain skills by organizing workshops on new phenomena.

- There is still a lack of knowledge regarding new materials for sustainable building and the risks of new building and energy transition. At the same time we develop more and more knowledge about the risks and how to deal with them as a fire service.

- More specific knowledge was shared about:
    a. the risks of lithium ion batteries and there effect on response procedures
    b. the application of clay systems to protect cross laminated timber constructions, and also about a new risk for internal attack: the smoldering invisible fire.
    c. The research done by FSRI on EV car fires, risks of application of a fire blanket to fight EV car fires. Lithium Ion batteries were concluded to act like gas bottles and when on fire they should be treated as a gas fire. This is a completely new approach to Li ion battery fires, that excludes certain extinguishing agents on the market.
    d. The effect of fire spread in high buildings and how to apply FDS to learn about them. There were a few real fires discussed including the lessons.
    e. The effect of ageing of society and the simultaneous development of longer living independently. How to keep the elderly fire safe?

- Last but not least: Although the colleagues from Ukraine did not get permission from their minister to participate physically, our colleague Oleksandr Lazarenko joined us digitally and he presented how the Ukrainian FRS deals with fires and rescues under war circumstances. This was very impressive to realize and to see how FRS have to act to protect themselves. We are very grateful that Oleksandr Lazarenko wanted and was able to share this with the participants.

5 List of participants

Participants Exchange of Experts	Country/Alliance
Petr Kupka	Czech Republic / Ministry of the Interior Fire Service College
Sami Goldbrom	United Kingdom / Research & Development London Fire Brigade
Adam Barowy	United States of America / UL Fire Safety Research Institute
Dan Stephens	United Kingdom / Fire Services, Branch Welsh Government
Constantin Ahrens	Germany / Berliner Feuerwehr
Mikko Poutala	Finland / The Finnish Association of Fire Officers
Antti Kinnunen	Finland / The Finnish Association of Fire Officers
Pekka Lindholm	Finland / Pelastusopisto Emergency Services Academy Finland
Madis Klaassen	Estonia / Rescue Department Estonian Rescue College
Zhuojun Nan	China / Delft University of Technology
Johanna Liblik	Estonia / Tallinn University of Technology
Lieuwe de Witte	NIPV
Ricardo Weewer	NIPV
Tamara van der Coer	NIPV

6 Programme

Programme June 2nd 2024

<13.00	Pick-up from hotel to NIPV
13.00 - 13.15	Arrival Experts
13.15 - 14:00	Welcome and introduction by Ricardo Weewer
14.00 - 14.30	NIPV - Lieuwe de Witte and Ricardo Weewer The workings of the Dutch system
14.30 - 15.00	Estonian Rescue College - Madis Klaassen LNG Truck Accident on Tallinn–Pärnu Highway
15.00 - 15.30	Coffee break
15.30 - 16.00	Berliner Feuerwehr - Constantin Ahrens Incident command and Human Factors in complex incident situations (Case study Blackout 2019)
16.00 - 16.45	Research & Development London Fire Brigade - Sami Goldbrom Establishing a Research and Development function within the organisation
16.45 - 17.00	Discussion
17.00 - 17.30	Wrap-up
18.30	Pick-up from NIPV to hotel

Programme June 3rd 2024

08.30	Pick-up from hotel to NIPV
09.00 - 09.15	Emergency Services Academy Finland - Pekka Lindholm Connecting RDI to degree programs in education- case Pelastusopisto
09.15 - 10.00	NIPV by Arjan Bruinstroop Situational Incident command
10.00 - 10.30	Coffee break
10.30 - 10.45	The Finnish Association of Fire Officers - Antti Kinnunen Overpressure phenomenon in apartment fires
10.45 - 11.30	Fire Services Branch Welsh Government - Dan Stephens Welsh FRS inspection findings Firefighting tactics
11.30 - 12.00	Lunch
12.00 - 12.30	Delft University of Technology - Zhuojun Nan of Structural responses under under-ventilated travelling fires
12.30 - 13.15	Tallin University & Technical University Eindhoven - Johanna Liblik Clay protection of biobased separation constructions
13.15 - 14.00	Snacks and drinks
14.00 - 14.30	Ministry of the Interior Fire Service College - Petr Kupka Standard apartment fire in context to IC training
14.30 - 15.00	UL FSRI - Adam Barowy, Safe time for firefighting in tall buildings
15.00 - 15.45	Discussion
15.45 - 16.30	Wrap-up by Ricardo Weewer
16.30 - 17.00	Pick-up from NIPV to hotel
17.00 - 17.30	Dinner

Programme June 4th 2024

	Onderwerp
09.00 - 09.30	Pick-up from hotel to NIPV
09.30 - 10.00	Welcome *Lieuwe de Witte, Professor Fire Safety NIPV*
10.00 - 10.10	Introduction *Harm Balk managing director Safety Region Kennemerland*
10.10 - 10.20	Facade fire spread in residential buildings *Christian Maluk, technical director, DAMA Engineering Consultants*
10.20 - 11.05	Coffee break
11.05 - 11.30	Evolving London build environment from firefighting perspective *Sami Goldbrom, Group commander, Research & Development, London Fire Brigade*
11.30 - 12.15	Firefighting under war circumstances *Oleksandr Lazarenko, Lviv State University, Ukraine*
12.15 - 13.00	Lunch
13.00 - 13.45	Results of research project on UHP extinguishing systems for fires in batteries of electric vehicles *Henk Brans, researcher, NIPV*
13.45 - 15.00	Coffee break
15.00 - 15.30	When water goes up in smoke: experimental research into the effect of the 3D pulse method and the arc method on smoke cooling *Rijk van den Dikkenberg, senior onderzoeker, NIPV*
15.30 - 16.45	Networking drinks
16.45 – 19.00	Networking and BBQ at NIPV
19.00 - 20.30	Pick-up from NIPV to hotel

Programme June 5th 2024

	Onderwerp
09.00 - 09.30	Pick-up from hotel to NIPV
09.30 - 10.00	Welcome and introduction
10.00 - 10.05	Opening by Harm Balk
10.05 - 11.05	Overview FSRI research (EV and battery fires) *Adam Barowy, Lead Research Engineer, UL FSRI*
11.05 - 11.30	Coffee break
11.30 - 12.15	Learning from fires - Fire safety of housing with care, *Johan van der Graaf, senior researcher, NIPV*
12.15 - 13.00	NIPV-VVBA Thesis award presentation by the nominees and award ceremony
13.00 - 13.45	Lunch
13.45 - 15.00	EV and battery fires – FSRI research *Adam Barowy, Lead Research Engineer, UL FSRI*
15.00 - 15.30	Coffee break
15.30 - 16.45	Estimating the HRR from thermocouple measurements using empirical correlations, zone modelling and CFD-simulations
16.45 - 17.00	Networking (no dinner)
17.00	Pick-up from NIPV to hotel and/or Experts leaving for Airport