

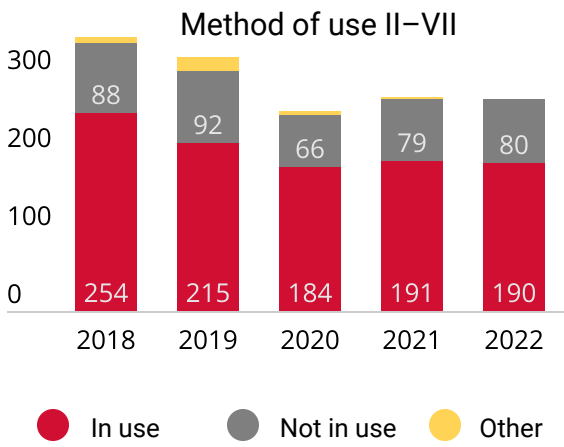
Fires in non-residential buildings 2022



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2023

Trend 2018–2022

Since 2018, the number of fires in non-residential buildings has decreased. The proportion of fires in non-residential buildings not in use is 25–30% year to year. In the last two years, there have been approximately 190 fires a year in buildings in use.



Hereinafter, the report will focus on indicators related to buildings in use with the methods of use II–VII

The number of fires by method of use 2018–2022

METHOD OF USE	2018	2019	2020	2021	2022	TREND LINE
method of use II	11	11	15	13	12	
method of use III	15	6	10	7	5	
method of use IV	63	56	50	47	50	
method of use V	25	18	24	12	14	
method of use VI	119	107	69	101	95	
method of use VII	21	17	16	11	14	
TOTAL	254	215	184	191	190	

The biggest decrease in the number of fires five years ago came from type VI buildings at the expense of wood industry buildings (–19), while the number of fires in grain dryers increased (+12). The number of fires in type IV buildings decreased at the expense of commercial buildings (–10). In the case of type V, there were 11 fewer fires in 2022 than in 2018.

Property damage in buildings 2022



€11,242k



€ 140K



€ 132K



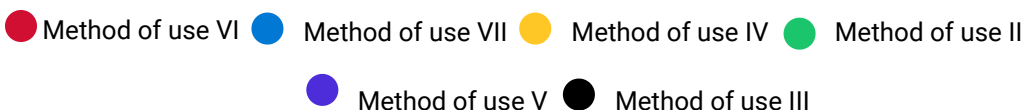
€ 65K



€ 49K



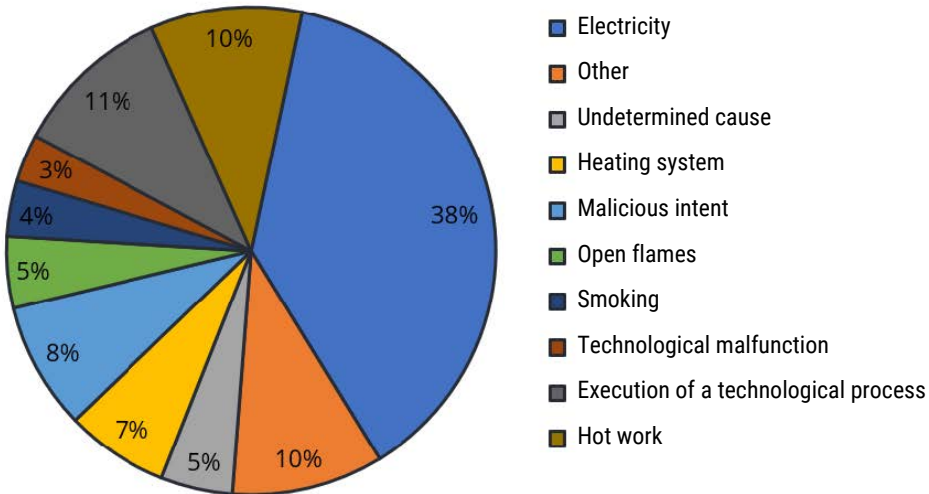
€ 32K



Causes of fires

Most often, the fires in non-residential buildings in 2022 were started by electricity (38%), in the execution of a technological process (11%), and in hot work (10%).

Causes of non-residential building fires in 2022



Most of the fires started by electricity occurred in type IV and VI buildings. In the case of **electricity**, the most common fires are those caused by faults in electrical equipment and installations. Fault keywords: batteries while charging; bad and weakened connections in junction boxes/plugs/electrical panels; transformers/chokes for fluorescent lamps; overloading of equipment/installation parts. **Keywords for prevention** – maintenance of electrical installations and equipment.

Almost half of the fires that started in 2022 in **executing a technological process** took place in grain dryers. Many were related to the ignition of dusty filters and other dusty/dirty equipment parts due to sparks or friction.

Prevention keywords – timely cleaning and maintenance of equipment/machines. Keywords of fire causes for **hot work**: installation of SBS roofing with a burner, combustible material around the place of temporary hot work.

Prevention keywords – compliance with fire safety requirements when performing works involving an open flame.

CAUSE	2018	2019	2020	2021	2022	TREND LINE	COMMON CAUSE AREAS
Electricity	75	61	74	66	74		Industrial, production, technical space
Execution of a technological process	17	19	10	19	20		Industrial, production, technical space
Other	28	17	21	24	19		-
Hot work	17	17	14	18	16		Garage, roof, exterior façade
Malicious intent	19	11	18	12	16		Exterior façade
Heating system	37	21	14	15	14		Boiler room, garage
Open flames	30	31	15	12	9		Equal distribution between different rooms
Undetermined cause	7	10	6	9	9		Equal distribution between different rooms
Smoking	12	18	4	10	7		Equal distribution between different rooms
Technological malfunction	12	10	8	6	6		Equal distribution between different rooms

While the trend has been fluctuating for many of the causes, the number of fires started by technical malfunctions, heating systems, and the use of open flames has decreased over the past five years.

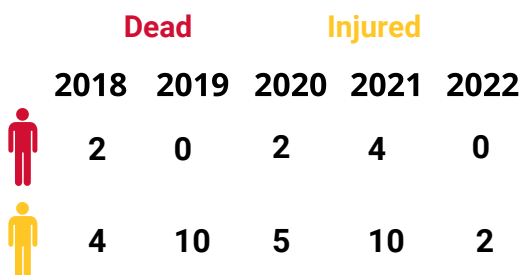
Victims

The number of victims by method of use 2018–2022 in total



In the last five years, fires in type VI buildings have had the most victims.

The number of deaths and those injured



There was one fire in 2021 in a nursing home with 3 dead and 1 injured, and one fire in a chemical industrial building with 3 injured.

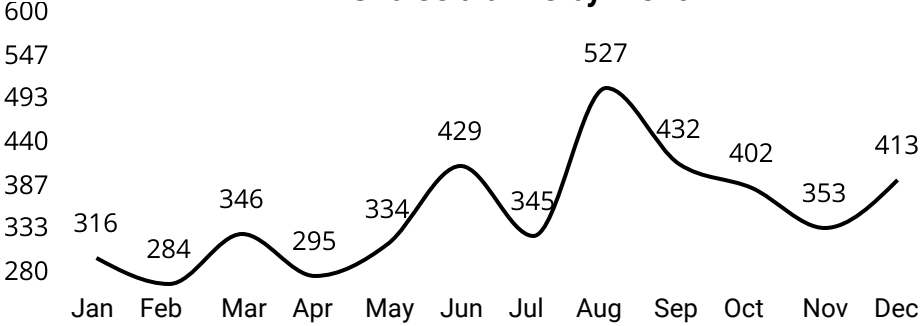


AFAS false alarms

There were 4,476 AFAS false alarms in 2022. This is one of the most common types of alarms. On average, there are 373 alarms per month, 12 per day. The average duration of one event is 18 minutes.

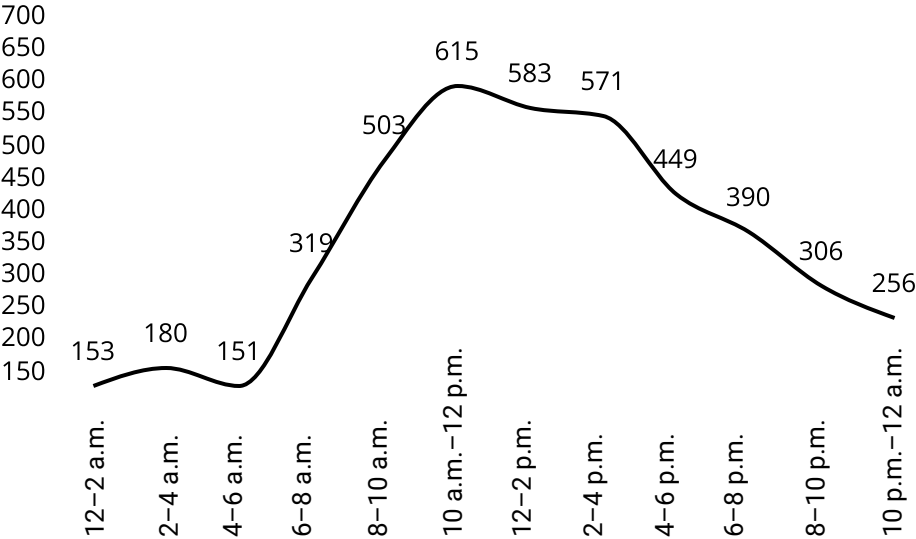
41 fires occurred in buildings with AFAS in 2022. On 20 occasions, AFAS forwarded the alarm message to the Emergency Response Centre. In the remaining cases: in 13 cases, the alarm signal worked during the fire, but the fire was reported by calling the Emergency Response Centre (the alarm did not reach the Emergency Response Centre); in 5 cases, it was suspected that the AFAS was not in working order; on 2 occasions, the AFAS system could not be activated due to the area where the fire started (roof, exterior façade); in 1 case, it is not possible to assess the operational status of the AFAS.

AFAS false alarms by month



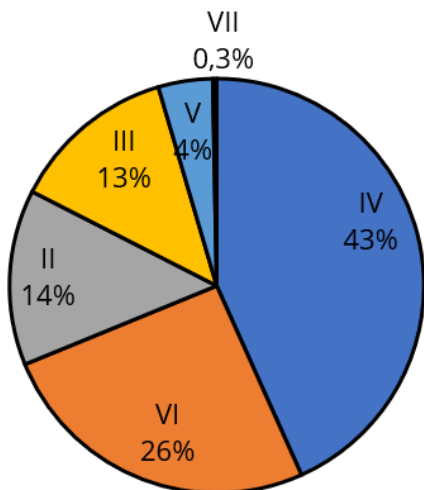
The number of false AFAS alarms was higher in August (compared to other months) due to system failures and construction works

AFAS false alarms by time of day



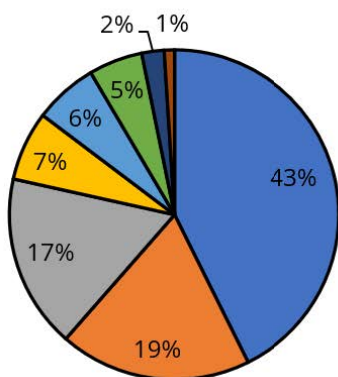
Most of the false alarms take place between 8 a.m. and 6 p.m., due to more frequent activity at sites.

The proportion of AFAS false alarms by methods of use



The share of the number of false alarms in non-residential buildings across all methods of use is largely proportional to the number of buildings (the more there are buildings with a certain type of use, the more false alarms there will be).

Causes of AFAS false alarms



The proportion of **system failures** was highest in type VI buildings (565; 49%).

Alarms related to **construction works** are mostly related to dust getting in the detector during various types of construction. Detectors have been left (partly) uncovered during works. Alarms in treatment and welfare facilities (such as hospitals, nursing homes) are somewhat more common.

False alarms caused during **maintenance work** are related to a failure to isolate (a part of) the system during maintenance work (detector replacement, testing, ventilation cleaning, etc.)

Examples of **unintentional start-up** are steam generated during cooking, accidental manual pressing, or crushing the detector with a forklift.

■ System failure

■ Other

■ Maintenance work

■ Drills

■ Unintentional start-up

■ Construction work

■ Undetermined cause

■ Malicious intent



OBSERVATIONS

Systems that are not properly installed and maintained will cause false alarms.

False alarms can also be caused by failure to take equipment, design, installation, use, or maintenance.

The reason may also be insufficient consideration of environmental conditions into account when designing the system or changing the purpose of rooms in buildings (change of environment).

Maintenance and construction activities must not cause deviations in the operation of fire alarm systems and in the work of AFAS.

Inspection by the Rescue Board in 2022



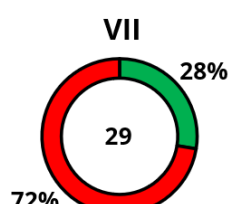
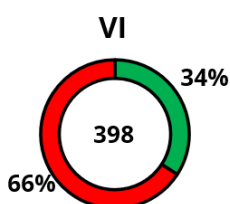
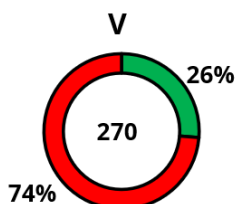
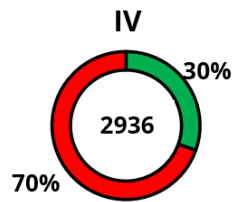
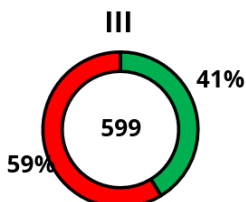
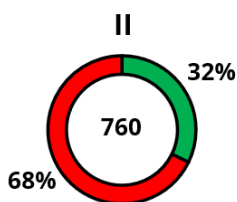
4,992 inspection operations in type II–VII buildings

4,687 buildings inspected

In 68% of cases, a deficiency related to fire safety was identified

The main deficiencies were related to evacuation lighting, fire alarms, fire compartments, egress and evacuation routes, and action in case of fire.

The number and results of inspection operations by type of use of buildings



Fires in inspected buildings



- There was a fire in 26 inspected buildings.
- There was a fire in 10 buildings after inspection.

Number and results of TOP 10 inspection operations by purpose of use of buildings

Purpose of use	Method of use	Number of inspection operations	Proportion of buildings with defects
Commercial building	IV	453	66%
Pre-school institution	IV	390	67%
Primary or secondary school building	IV	330	68%
Other short-term accommodation building	II	294	61%
Hotel, motel, guesthouse	II	273	73%
Other commercial building	IV	266	62%
Office building	V	235	75%
General nursing home	III	210	62%
Special care home	III	192	42%
Club, community centre	IV	167	77%

Summary

1. Since 2018, the number of fires in non-residential buildings has decreased, and there were 190 fires in non-residential buildings in use in 2022.
2. The biggest property damage (more than 11 million euros) is related to a fire of a type VI building. The average building property damage (€118,000) is also the highest in type VI buildings.
3. Most often, fires in non-residential buildings were caused by electricity (38%), technological processes (11%), and hot work(10%).
4. In 2022, 2 people were injured in fires in a non-residential building in use, no one died. Over the past five years, the largest number of victims have been in type VI buildings.
5. 4,476 AFAS false alarms took place in 2022, all of which are a great burden on the Rescue Board. The most common cause of a false callout is a system failure. The
6. Rescue Board carried out a total of 4,992 inspection operations in 4,687 type II–VII buildings, and defects were found in 68% of the cases.