



## MOBILE TURBINE RESCUE AND FIREFIGHTING SYSTEM – MTSRG

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A research and development project using turbine technology for rescue and firefighting operations was initiated by the State Fire Service. The concept of using turbine engines in fire protection for such events as great fires of forests, large-volume facilities and technological installations, especially in the petrochemical and chemical industries, has been known since the early 1960s.



Fig. 1. Mobile turbine rescue and firefighting system

Source: JAS Technologie

The main element of the system is the SO-3 jet engine, which is a later version of the first jet engine constructed in Poland, developed for the TS-11 "Iskra" training aircraft. The turbine is powered by aviation fuel and the tank used allows the engine to run for about 80 minutes. In turn, the extinguishing agent injection system was mounted on a special working platform at the rear of the vehicle.



Fig. 2. Mobile turbine rescue and firefighting system  
 Source: JAS Technologie

MRSRG can be successfully used during fires of large industrial facilities, forests, in all chemical accidents and other situations where a large amount of water mist is needed. The demonstrator also has an extinguishing powder supply system that allows the powder stream to be introduced into the gases produced by the turbine. The system works independently of the water system. It is possible to supply powder and water or water solutions in parallel.



Fig. 3. Functionality and capabilities of the system  
 Source: JAS Technologie

More  
Information



For more information please see:

- Rogulski J. Szulczyńska D., The Use of Innovative Technologies in Rescue and Firefighting Activities of the State Fire Service in Order to Increase the Safety of Officers and Protect the Environment, SFT VOL. 57 ISSUE 1, 2021, PP. 100–113,  
<https://panel.sft.cnbop.pl/storage/dff28dd5-c9d2-406a-98ea-8566f0f20695>;
- <https://www.jastechnologie.pl/pl/badania-i-rozwoj/mobilny-turbinowy-system-ratowniczo-gas-niczy>;
- <https://www.portal-mundurowy.pl/index.php/component/k2/item/10458-unikalny-mobilny-turbinowy-system-do-gaszenia-duzych-pozarow>.