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**STRATEGIC PARTNERSHIP IN THE FIELD OF  
VOCATIONAL EDUCATION AND TRAINING**

**PROJECT**

**Drone European Platform**

**PROJECT NUMBER N.º 2017-1-ES01-KA202-038136**

**Application of drones in the fire department**





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<b>Title</b>	Application of drones in the fire department
<b>Summary</b>	<ul style="list-style-type: none"> <li>- Use in forest fires, how big is the fire, where are all the units? Creater a good oversight.</li> <li>- Possibly monitoring dangerous substances in the smoke.</li> <li>- With collapsing buildings, by using thermal imaging cameras it is possible to locate the hazards or victims.</li> </ul>
<b>Major area of work</b>	Firefighting
<b>Key Facts</b>	<b>Location:</b> Region Mid- and west-Brabant, Twente, the Netherlands.
	<b>Target group:</b> Fire department.
	<b>Other stakeholders:</b> Helicon, who collaborated in the project and the farm mechanisation.
	<b>Objective:</b> To determine the application possibilities of drones at the fire department?
<b>Timeframe:</b> In 2013 a study to utilise drones in fires was started.	
<b>Context and problem addressed</b>	At a mechanic shop in an industrial zone it smoulders. Soon black smoke clouds come from the building, over the highway. The fire department turns out fully equipped. There are gas cylinders in the building. It's too dangerous to enter the building. The fire department commissions a drone with a thermal imaging camera. The footage of the drone shows where the heat sources are. With that knowledge the development of the fire becomes clear and the fire department can prevent the fire from spreading to the adjacent building.
<b>How does it work</b>	In the project-fase and the qaurtermaster-fase they focus on the usability of optical cameras and thermal imaging/infraredcameras. For these sensors an educational programme is being set up in relation to given scenarios. Besides that they are working on introducing other sensor and working out corresponding training programmes. Among other things think of the usage of detection sensors, dangerous substances and so on.
<b>Validation</b>	Yes. Just recently during the forest fire in the Deurnese Peel. The drones of the departments Midden- and West-Brabant and Twente are the only ones in the Netherlands so far. The goal is that other departments will



	soon follow.
<b>Impact</b>	The project is not completed yet.
<b>Innovations and Success factors</b>	Was it succesfull? Yes Was there a technical innovation? Yes
<b>Constraints</b>	The law, difficult repairs and obtaining the right licenses.
<b>Lessons learned</b>	<ul style="list-style-type: none"> <li>• One country-wide a decision authorizing flight with drones;</li> <li>• an operational manual;</li> </ul> <p>You see we get a decision authorizing flight with drones if we put together a country-wide operational manual. In this manual the responsibilities and competencies from the aviation organisation can be found, including:</p> <ul style="list-style-type: none"> <li>- Scenarios in wich drones can be commisioned and under wich conditions this can happen.</li> <li>- A description of the technical details of each drone.</li> <li>- A safety management system.</li> </ul> <ul style="list-style-type: none"> <li>• An educational program for the fire department. For all of the scenarios included in the manual a traning is being developed. With this we show that we as fire department are capable to undertake risky activities, Wich others are not allowed to.</li> </ul>
<b>Sustainability</b>	Getting a view of the situation early, Are there special hazards? Rescueing victims faster. faster interferance with dangerous gasses in thee smoke or in accidents with dangerous substances.
<b>Projects story</b>	See links below.
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<b>Websites and other resources</b>	<a href="https://www.brandweer.nl/ons-werk/drones-bij-de-brandweer">https://www.brandweer.nl/ons-werk/drones-bij-de-brandweer</a> <a href="https://www.brandweer.nl/media/4813/faq-project-vliegen-">https://www.brandweer.nl/media/4813/faq-project-vliegen-</a>



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