

**Share PSI 2.0 Samos Workshop:  
Uses of Open Data Within Government for Innovation and Efficiency**

**Experiences with Open data in the fire department**

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*The incident firefighters are being sent to are by nature unpredictable, otherwise they would have been prevented. Once on the scene firefighters are expected to march into action there is not much time to deliberate on the perfect action to be taken, it will always be the most suitable based on the knowledge and the decision time. With the wealth of open data becoming available from the governments there are several new opportunities and threats for fire fighters to be considered.*

In the past 5 years netage has been involved in various projects using and creating open data for various fire departments in the Netherlands. We would like to share the experience gained in the various projects, both technical and more awareness related issues will be addressed. The field of emergency response and open data is a whole different game all together.

**The fear of not knowing**

Personally in my job I realized that the lack of any structural information about the incidents I go to caused a serious risk, we might go to situation where there might be more information available than we are aware of at the time, this could make us decide otherwise on the actions to be taken at the scene. If something goes horrible wrong during a incident and from public available data we would conclude that we could have known about that situation and should have operated differently we have failed dramatically. Then again, how do we absorb all this data in the little time we have before going to a incident. Machine readable open data plays a key role in addressing this fear.

**The fear of should have know.**

There is a very different thread in public available data as well. As mentioned in the first paragraph fire fighters make split second decisions partly evidence based partly on gut feeling. History has proven that on hindsight, with overlooking all available data, and most importantly having more time than a split second, we should have operated differently for a better or more efficient outcome, not the that the action take was wrong, but we could have done better. In the current light of accountability in society it is a threat to fire fighters to always keep this “what if” scenario in mind. It has proven to cause stalling on decision making, 'what if my next step does not have the expected outcome' often leads to not taking the next step. Publishing and annotating data about the operations of fire departments will help to show the time pressure people work under.

**Preparation and Accountability.**

In the Netherlands the QOS of fire departments is based on the their timeliness, in what percentage of the responses is the first fire tuck on time. 'On time' by itself is based on the type of structure the fire department responds to. Historical buildings obviously need a quicker response time than newly constructed family homes which comply to the latest regulations. The problem of this approach is that it is a very one dimensional measurement. With the help of open data and combining the data in a smart way it is possible to relate the actual response time , the possible damage and historical data to determine if the area is susceptible for fires. Based on this data the fire department can justify the lack of timeliness in certain locations based on a more dimensional risk assesment.

## **The big data hype**

The last few years saw the emergence of the big data hype. Combining large sets of data should give us new insights in the operations of various organizations. Fire departments are struck as well. Although big data, as shown in the previous example does highlight attention areas, it is very important to recognize that our work traditionally is based around the unknowns and unexpected. This means that data which we use is about a situation where the fire department is not needed, the question arises, is this data still useful if everything goes wrong, are the parameters which caused the incident or influence the progress of the incident actually in the data?

E.g. FDNY uses renovation dates from electrical systems from large apartment buildings to determine the likely hood that a fire could occur there. What if the contractor simply invoiced new wiring, but never actually did re-wiring? Facts like that will always emerge on hindsight. Upfront the building looked in perfect shape based on the data.

## **The Challenges**

Apart from the above mentioned issues we came across we also encountered several technical challenges with the data we needed

- Granularity, to get the geo data needed for the local fire department we needed to use all the 23GB of the whole of the Netherlands.
- Meta data, there are multiple Coordinate reference systems used in the Netherlands sometimes it is not mentioned which is used.
- Documentation, sometimes there was not information at all about available data
- Lack of Awareness, standardization bodies do not care to publish their standards in a machine readable way ( not even XSL )
- Mismatch of entities, some data although claiming to pursue a common goal lacks to use the standard definitions.

## **The Victories**

Open data allowed the fire department to make better use of public data, and to publish more meaningful accountability reports. The experience we have had so far is that although the access to the data is sometimes not straight forward, we at least got rid of the bureaucracy hurdle in the whole process.