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Glossary

UABS Unmanned Arial Base Station. 6

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Introduction

1.1 Outline of the issue

Society is constantly getting more and more dependent on electronic communication. On any given moment in any given location, an electronic device can request to connect a bigger wireless medium. More devices need to be connected like IOT devices starting from small sensors up to self driving cars.

Once again it becomes clear why we're on the eve of new generation of cellular communication named 5G. This new technology is capable of handling millions of connections every square meter while satisfying only a microsecond delay and a connection up to 10Gbps [?].

Also in exceptional and possibly life-threatening situations we rely on the cellular network. For example during the terrorist attacks in Zaventem, a Belgian city. Mobile network operators saw all telecommunications drastically increasing causing moments of contention. Some operators decided to temporarily exceed the limited exposure in order to handel all connections.. [?]

Electromagnetic exposure can however not be threaded lightly. Research show how electromagnetic radiation can cause diverse biological side effects. [?]

1.2 Objective

In order to provide a network, even if the existing network is damaged, a deployment tool has been developed by the UGent. The idea is to attach femtocells to UAV's. Such a device is called a Unmanned Arial Base Station (UABS). The tool calculates where drones need to be positioned in order to connect an active user to the backbone network.

todo: wat ga je zelf aanvullen