Hunger

Dear Reader,

Just recently, an article written by the Organization for Economic Cooperation and Development on the subject of mobile data caught my eye. According to the article, the personal data consumption of users lies between 4.3 and 42 GB per capita: considering the almost two billion users worldwide, this figure is dizzyingly high. Industrial use cases up to V2X communication are not even included. Bearing in mind that this is related to everything up to 5G, which is widely rolled out, although not yet in Germany. In addition, according to statistics, machine-to-machine applications will grow around 14 % per year.

A glance at the power grid in this respect shows the immense numbers regarding energy requirements for communication technology. A survey commissioned by RWE and conducted by RWTH Aachen estimates the additional requirement for IT centers for 5G to be around 3.8 TWh. The slightly good news is the additional potential for district heating as the waste heat from internet nodes is correspondingly large and really ought to be used.

If one considers the whole picture, it becomes clear that humanity has released a true energy guzzler in addition to the areas of heating and transport. The exponentially increasing data amounts are generated and transmitted, and also unfortunately stored forever: the private user is often so overwhelmed that they do not delete anything, and the commercial user is forced to store its generated data documentation purposes and (intently) for analysis. Whether it is the development and validation of data for automated driving or permanently gathered user data, all this results in a continuously growing CO_2 footprint.

And yet all these Cloud services, analyses, AI, VR glasses etc. actually mean we are just seeing the beginnings of a huger flood. The further development of microelectronics and their possibilities together with future standards such as 6G and 7G will offer many more application possibilities for data acquisition and evaluation, whether it is in the field of vehicle technology or even more advanced payment possibilities via face scanning in countries such as China. Whatever the purpose: energy requirements from the field of data management will increase further. I dare to prophesy that we will see the day when humanity's hunger for energy to power communication in the broadest sense is larger than that for industrial production.

Enjoy reading this edition.

Robert Unseld
Responsible Editor