# INDUSTRY 4.0 IN WATER MANAGEMENT – NEW METHODS IN AN OLD INDUSTRY

HISTORY OF IoT (INTERNET OF THINGS) FROM THE EMPTY COLA MACHINE TO TODAY'S SMART HOMES

Current Corona virus epidemic overrides old traditions and demands new solutions. Who would have thought that working from home will spread so fast and will be standard for millions of employees around the world? Who would have thought that long established practices will be outdated almost overnight, and instead of going where task is we must call task to come where we are? We are getting acquainted with new words like „online, remote access, wireless data transfer, smart devices" and suddenly we realize how big help they can be in our work when normality returns.

There is an old saying, "Every cloud has a silver lining." Let's find this silver lining together, let's be prepared not to go and fetch data where they were born but to order them to come to us, where we can analyze them when and how we like. How will it be possible? The answer is simple, even though first it may sound a bit alien: by using a new and fast spreading technology called IoT.
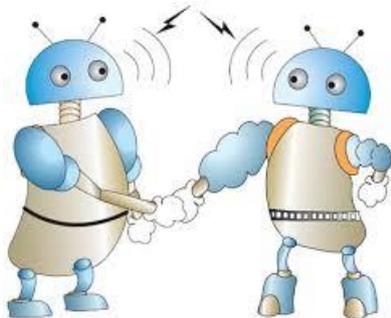
IoT? What is it? Internet of Things – a system of intelligent devices that are able to transfer and share data over a network without requiring human-to-human interaction. Yes, for the first time in history communication flows not between humans but machines. It is called **Machine to Machine (M2M)** communication, where data collected by machines are transferred to machines for evaluation and decision-making. We, humans, have become superfluous in the process…

Today there are thousands of smart devices around us; everybody uses smart phones and smart watches, our homes are full of smart solutions, like smart TV, automatic vacuum cleaner and thermostat, smart washing machine etc. But do we know where IoT started, **what was the world's first IoT device**, who and when invented it? The answer – not the first time in history – lies in human laziness.

The year is 1982 and we are in Carnegie Mellon University's (USA) computer science department. Students spend long hours in front of their computer – no, there were no laptops or tablets at that time – and if they get thirsty they have to go a „relatively long way" to the nearest Coke machine. And what a nasty surprise to find the machine empty or the freshly refilled soda lukewarm!

Human brain is capable of miracles and some dedicated but exceptionally lazy students found the solution: they installed sensors, sensing the status of the machine's indicator lights. When the machine run out of soda, the information was shared with the students through the university's inner network.