Digitalisation in water sector

State of affairs, questions, calls

The widely held thesis

"Everything is digitalised that can be digitalised"

is ill-suited to public services.

In water sector, the thesis should read:

"It is digitalised if and in so far as it serves the purpose (secure supply and high quality) and at the same time is ecologically and economically sustainable as well as conducive to customer satisfaction."

Water sector workers can support this approach and contribute to its successful implementation.

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1. Importance of digitalisation in the sector

Since the beginning of the 1990s, when the last investment cycle started, processes in the sector have largely been automated and remote control technology and also digital office communication have become standard. It is therefore important to consider what is new in the current wave of digitalisation and what effect it is having.

What is the business object? How is it fulfilled?

Citizens are entitled to a safe drinking water supply at all times and to proper collection and treatment of wastewater. They can expect these public services to be provided as efficiently as possible so that only the necessary costs are incurred and have to be allocated.

Now the next investment cycle is starting – it is therefore likely that the current technological advance will rapidly find its way into water sector.

However, this should not simply be implemented blindly, but prudently, with a future-proof perspective, so that no unnecessary investments are made.

We call on decision-makers in companies and departments not simply to buy the latest and greatest, but to make only necessary investments with safe technology. In this respect, it should be borne in mind that investment planning that does not include a staff development plan is incomplete and in case of doubt leads to bad investments. Safe public services require technology which is functional immediately and at all times and staff who are qualified to use this new technology. Moreover, they must be able to restart the processes manually in the event that this technology nevertheless fails.

What are the points to be borne in mind when making investment decisions in public services?

The municipalities are responsible for public services. In order to meet this responsibility, they must be able to influence corporate decisions. This influence can be lost not only through organisational decisions (privatisation), but also through decisions in favour of a given technology. Local government politicians and decision-makers must be aware of this when it comes to procurement.

We call for investments to be confined solely to those which continue to allow influence by politicians and entrepreneurs in the public interest.

If, instead of new pumps, only the pump runtime service is purchased, this may be a logical decision in purely economic terms. However, companies and politicians thereby relinquish their influence on their own infrastructure. **We reject this.**

If, for example, new pumps are to use the Internet of Things (IoT), this is not simply just modern. There are then many decisions to be taken, a fact of which unfortunately far too many decision-makers are still unaware.

- Who does this pump notify when it has to be serviced, for example? The manufacturer or the control room
- And who then decides whether the notification is followed up: the manufacturer or the control room colleagues?
- What is actually stored in the algorithm that generates the notification: a sustainability or a wear and tear logic? Who determines this and who knows what is stored?
- Who owns the data collected by this pump: the manufacturer, the (waste) water operator or the municipality? Who may use these data and under which conditions?
- What does this mean for the protection of critical infrastructure?

These questions are all the more significant in the case of complex investments.

We call on the decision-makers to discuss these questions openly and, with the local government politicians, to take fundamental decisions on this subject, on which future investment decisions and contract formulations are based. There may also be decisions which deliberately dispense with state-of-the-art technology in favour of safety or political influence.

An important aspect of digitalisation is to maintain or acquire digital sovereignty. This regularly proves not to be the case on merely using the software products of Google and Co. (The use of a Google script on the company homepage, for example, leads to the abstraction of usage data).

We call on companies and departments to address this issue and seek solutions or take steps to find them.

Thinking out of the box!

Unlike for example in the energy industry, digitalisation decisions do not have to be taken for competition reasons. Instead, the focus should be on business object, worker interests and customers.

Public water sector, energy sector and waste sector are already converging now – whether for renewable energies, virtual power stations or sewage sludge recycling. Networking here too from digitalisation perspectives and sharing installations, software or data is important. This is particularly the case if it is foreseeable that non-industry players could insert their business models between the companies and departments and their customers. Smart water meters, run by outsiders, could damage public services if data of great importance for utilities (e.g. change in user behaviour, etc.) have to be purchased expensively from outsiders.

We call on municipal companies therefore to seek cooperation with one another at an early stage in the general interest.

And what about big data?

The huge treasure trove of data generated in public services is common property. These data are used for a wide variety of analyses which form the necessary basis for far-reaching decisions in the general interest. For this reason, the public authorities must be able to analyse these data themselves.

We call on the Federal legislator to protect public data from private acquisition and to regulate their use in the interest of all. We call on the Federal Government, Länder and municipalities to press ahead with and fund research and development for analysis tools.

2. Importance of digitalisation for workers

Already, many changes in the work organisation and working processes, as well as in the skils requirements, were associated with the last investment cycle. The response to this was the reorganisation of job descriptions, information sheets from the regulatory associations and offers of further training from the industry associations.

At present at the BIBB[1], following the example of the wastewater specialists among others, investigations are being carried out into which effects digitalisation already has on the job description and which are still to be expected. Two trends are emerging: on the one hand, in the future still more contextual understanding for the process as a whole will be needed so that, in case of failure, manual intervention at the installation is still a reasonable possibility. On the other hand, "learning to learn" will become increasingly important as ever more rapid innovation cycles are expected, which means that the half-life period of IT knowledge is becoming ever shorter.

This description can be transferred to a large number of professional fields. Employers must find answers to this. Attitudes such as: "It won't be as bad as all that", "That's what the 'digital natives' bring with them", "We'll get them from the labour market", "They learn that after working hours" jeopardise the security of supply, as the retirement of the baby-boomers, who take a great deal of process knowledge with them, coincides with the falling numbers of school-leavers and the increased skills requirements.

We call on companies and departments for it to be mandatory to link investment decisions with a staff development plan which ensures that the necessary workers with the necessary skills are in the right job at the latest at the time of commissioning. We call for upskilling to occur comprehensively and at an early stage during working hours and at the cost of the employer.

Whether and if so where individual tasks or entire jobs vanish as a result of digitalisation is unclear and depends on concrete investment decisions. Whether that also means job cuts is equally unclear, as new tasks will also be added. It is important, for example, that the staff savings promised in glossy brochures as a result of fully automated installations must first occur in reality before new tasks can in fact be assigned to colleagues.

We call on companies and departments to involve the workers in the process. As experts, they can often forestall bad investments and identify useful measures. Likewise, they can estimate the skills need. **We call on employers always to work towards improving working conditions through digitalisation investments.**

The fear that digitalisation will lead to massive job cuts is based on the assumption that there would be productivity increases which will accrue one-sidedly to the profits. If these productivity gains do in fact materialise, they must be used, in contrast to the past, in favour of "good work". If algorithms can in fact take over tasks which can be standardised here, the time freed up must be additionally available for challenging and creative tasks and may not lead to redundancies. It can also be used for reduction in working hours, upskilling and other measures to improve working conditions.

We call on companies and departments to enter into discussions on the use of productivity gains in the company with the workers and the bodies representing their interests.

Each further step in digitalisation potentially extends the technical possibilities of performance and behaviour control. These possibilities may not be used in a way detrimental to human dignity. Rather, worker data protection must already be taken into account in procurement decisions. "Privacy by design" and "privacy by default" software, which limits the analysis of worker-related data or does not allow it at all – are means of choice here, also within the meaning of the EU General Data Protection Regulation.

We call on companies and departments to become aware of their high level of responsibility for worker data protection and to work actively for this.

1 Federal Institute for Vocational Education and Training

We call on the Federal Government finally to get a law under way on the comprehensive protection of worker data.

We invite workers to play an active part in shaping digitalisation in the company – by organising themselves in ver.di, setting goals together and working in solidarity for "good work".

3. Importance of digitalisation for worker representation bodies

Works councils or personnel representatives, as well and youth and trainee representatives, have a key role in shaping digitalisation in the company. They must examine whether existing company or service agreements are still sufficient, in the light of the current legal framework and technical innovations, or whether they have to be supplemented or completely renegotiated. They have the task, where applicable, of monitoring the implementation of amended collective agreements. They advise and guide workers in the forthcoming processes of change. They must upskill for these tasks in terms of both form and content.

We call on the employers to provide the bodies in good time with comprehensive information, to cooperate with them intensively, to interpret the co-determination rights broadly and to recognise the need for upskilling.

We call on the Federal Government to adapt the Works Constitution Act (Betriebsverfassungsgesetz) and the Federal Worker Representation Act (Bundespersonalvertretungsgesetz) to the increased co-determination requirements of digitalisation. Co-determination rights and rights of initiative, for example for upskilling and data protection, must be introduced or extended. One approach is the process-oriented co-determination under the North Rhine-Westphalia Worker Representation Act.

4. Importance of digitalisation for the users of public services

Companies have a high level of responsibility in relation to their customers when deciding which business models and communication channels they offer and how they configure them. Depending on this, data flows to third parties do or do not result, there are or are not electronic gateways into households, encrypted communication may or may not be possible for customers. They must always also be able to contact their utilities companies offline.

We call on companies and departments to weigh up these aspects responsibly and to inform customers at all times proactively on the opportunities and risks of the respective use.

5. Importance of digitalisation for ver.di

ver.di has prepared for the forthcoming digitalisation in its sectors in good time by creating the field "Innovation and good work" and it regularly addresses important trends in digitalisation and their social, trade union and industry-related importance at its own congresses.

We wish to shape digitalisation for the benefit of citizens and workers and use political and collective bargaining means to this end.

This position paper on digitalisation in water sector was adopted by ver.di – Federal specialist board for water sector on 3 September 2018.

The board consists of 20 elected volunteer colleagues from drinking water supply, wastewater disposal, reservoir and waterbodies management throughout Germany.

This position paper is the starting point for the discussions we wish to conduct at operational and social levels.

We invite ver.di members and not yet unionised workers, company and department managers, representatives of associations and politicians to discuss this with us.

We wish together to form a good future for society as a whole.

For further information:

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