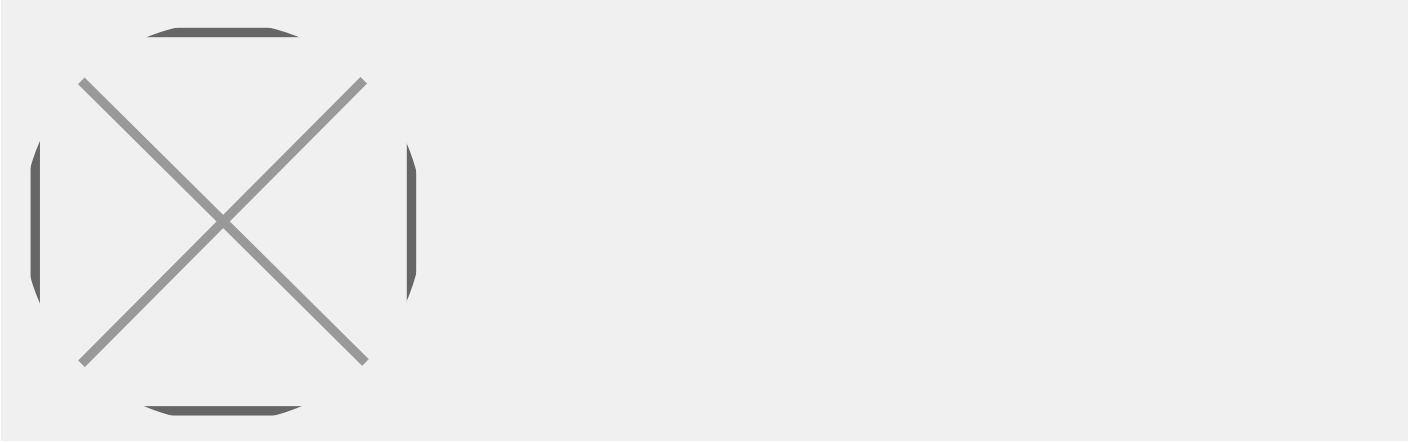
# Interview: Henrik Wieland, Healthcare Industry Leader Denmark, IBM Global Business Services



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**Could you outline the significance of Denmark to IBM's global operations?**

Industry in Denmark works with government on a basis of trust rather than mistrust. That means that we have been able for quite some time now to raise and share a lot of data. Of course there is legislation in place that limits aspects of data use, but as opposed to many other countries we trust that information will not be misused.

General practitioners have for many years been able to issue e-receipts and send them directly to the pharmacies. All that has been taking place electronically for many years. When many other countries are discussing e-health they are often talking about such basic solutions. Our head start comes from the fact that we have a high level of trust in each other, which I see as a cultural phenomenon throughout the Nordics.

Danes are known to get things done, to be able to act rather than always look for consensus. We are willing to try things out and are open to innovation, particularly in the healthcare system, both when it comes to national institutions and to hospitals.

A lot of doctors are working with innovative IT solutions. We have always had the eco-system of generating ideas and making it happen.

**One of the talks of the town when it comes to innovation of European healthcare systems is Denmark's 5.6 billion USD investment in a range of new hospitals, to include eight new 'super hospitals.' How do you want IBM to contribute to ensuring that the new hospitals are actually super hospitals?**

IBM can contribute in several ways. One way to look at this is actually at the transformation that the healthcare community is trying to accomplish with new so-called digital hospitals. We are looking at it from society's perspective. The new hospitals will be built with fewer beds than the current hospitals have. This means that a transformation in the way we deliver care has to take place. This transformation aspect is a key focus for IBM.

The vision we are working towards in order to realize that is called smarter care. Smarter care is a way to think of how we can apply technologies such as cognitive computing such as IBM's Watson solution to create new insights; how can we apply technologies to enable coordination so that we can get the social and medical side to merge and coordinate in order to focus not solely on healthcare but also at wellness.

How can we prevent illnesses from happening, how can we break the curve from increased population suffering from chronic diseases? And that requires not just a focus on healthcare and treatment but also on the social side and look at demographics and how we can help change the minds and behaviour to prevent it.

The transformation of hospitals is one thing. We are also looking at how we see a digital hospital. We see it as an organism with many things and solutions that need to be managed in a coherent way. It is a system of great complexity. The key is for us to manage that complexity. Our point of view is that, if you do not manage the complexity and acknowledge that you are working with a complex size, you will end up with 70 different solutions that do not fit together. This will actually be expensive in the long run and will not be as effective. It will not lead to the efficient patient flow that you would want to see.

**You mention the Watson computing platform. What are the kind of innovations that you are looking to bring to the Danish healthcare system?**

IBM is a big global player in the context of innovation. We invest a lot in healthcare. One of the investments is the Watson platform enabled for the healthcare industry. The technology is complex but the concept is fairly simple. Watson is able to understand natural language. It can understand and get meaning out of a conversation like the one we are having now.

Normally when you talk to a computer you have to be very structured and issue structured comments; Watson is able to read a report and get the right meaning out of it. It can process

medical journals at 65 million pages per second. That is one capability.

Then you can for example ask Watson what medication to apply in a certain situation. Watson is able to apply the knowledge it has been fed and come up with output on diagnosis, treatment alternatives, and is able to put confidence level in specific treatments and diagnosis.

For example, we can tell Watson that the information in the British Medical Journal is trustworthy and it will put a high confidence level on information from BMJ. Same thing if Watson finds the same results in several number of articles and journals – this will increase the confidence level that Watson will assign.

Also, Watson is able to learn from the choices and answers it receives, so it is getting smarter all the time.

**How far are we from actually seeing Watson in Danish hospitals though?**

It will be deployed later this year in the United States, in a controlled environment but in a real community. It is coming and it is coming fast.

I like to see Watson as if we are going to Mars. It is a compelling vision with lots of promise, we are confident that we will get there,and on the way we get solutions that are spinoffs from the process.

**We were talking about the changes IBM as a company has been going through over the past decade. If it works, this could be a company maker on the scale of the first PCs that the company produced, correct?**

I am convinced that it works, and indeed it will prove immensely important

Furthermore, along the way, a lot of spin-off innovations will come from it.

From the Watson program, we now have a number of commercialized products that are ready to be purchased. One such thing is Patient Insights, where we can look at the history of a patient and compare that person on up to 30.000 different characteristics with other patients. Instead of diagnosing a patient with diabetes and comparing him to any other diabetes patient, we are actually able, if we have a data foundation of course, to, based on 30.000 characteristics nail down patients that look like the patient in question when it comes to gender, age, genomic structure, medical history, and have responded well to a certain treatment.

We are thus able to tailor-make care precisely to the needs of the individual patient. We call it evidence-based, personalized medicine. The fact is, humans cannot comprehend the wast ocean

of information that is out there. That is the promise of technologies like Watson and the innovation it spins off.

**In a world where austerity rules supreme and healthcare costs are cut further and further, how challenging will it be to bring this unique but expensive product to the market?**

We will see a lot of different ways to bring the product to market. Currently it works on dedicated servers, but I could easily see that this could be offered as a sort of cloud-based service that physicians can tap into.

Today, it is a big investment for clinicians, of a similar size as purchasing sophisticated medical equipment..They have to dedicate people to it, space, operations cost, etc. with Watson it works in the same way. But we are in the early stages and are thinking of smarter solutions every day. Watson can actually fit in a normal think pad already. Just a year ago, you needed dozens of computers to run the program; today it fits on one think pad, or at least parts of it can. It evolves very rapidly.

**From our conversations with several key players in the Swedish pharmaceutical industry we have gathered some discontent on this government's commitment to paying for innovative products. Do you feel that all the noses are pointing in the same direction when it comes to putting these hospitals truly at the vanguard of innovation?**

Typically, in the earlier stages, there are no boundaries to the possibilities. Everybody just thinks of all the great opportunities to do new things. On the other hand, of course everybody also has to prove the added value of their products. The hospital has to be up and running from day one.

Also budgets are not necessarily squeezed along the way but you discover that the basics cost a lot. This means that, at the end, there may be less room for innovation than people may have hoped for at the outset. That said, I still think that everyone is very aware that innovation and transformation is a necessity and that it will come.

The five regions that make up Denmark and are the hospital providers are very conscious of their part in facilitating this change. It is a very positive thing that the Danish regions have in collaboration put forward a white paper with their thoughts on how to change the healthcare system from an activity-based system to an outcome based system, with much more collaboration between the stakeholders in the healthcare industry, so that we do not see the hospitals as one silo, the GP as a second, the municipality as a third, etc.

Different stakeholders are setting the agenda now to put the patient in the center and understand how we can change the system in order to collaborate around the patient. That is very positive.

It is not an easy task, and we need to remember that it is easy to sit in the background and tell people what to do.

**What are your key ambitions with IBM in Denmark in the coming five years?**

IBM wants to be a facilitator of change towards what we call smarter care, towards a more coordinated healthcare system. That sums it up very well. Part of that is bringing the digital hospital into the equation. The digital hospital is a key component in that coordinated healthcare system, but it is not the only piece.

We need a bigger focus on increased cooperation and a more holistic approach, a bigger focus on wellness and the integration of the social and the medical side; that is really the key to both increased quality and lower cost at the same time. That is one of the defining challenges the healthcare industry faces at this point in time.

**You speak very passionately about the job. What is your personal motivation?**

I am passionate about how we can use technology like Watson as an enabler for change. Before I moved to IBM's healthcare division I took care of consumer products industry. What I like about being in healthcare is that it actually makes a difference for people and the society.

Also, these are exciting times given the investments Denmark is making in its hospitals, and we are going through a period where we basically have a mandate for change in order to reform the healthcare system to more sustainable realities. It is very exciting to be part of this.

**Is the name of IBM already sufficiently connected to the healthcare industry?**

We need to do a better job at actually conveying the notion of IBM as a major innovator in healthcare. One of our company- wide values is 'innovation that matters.' That is actually a value I find very truthful and one that I personally like as well – the notion that what we do actually make a difference. I would like us to be seen as an innovative, trustworthy partner for change.

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