

STRATITEQ



guide.

Creating a data-driven healthcare.



You are out running, your pulse is steady and you feel light on your feet. Suddenly, there's a stabbing sensation in your chest. After brushing it off, you become increasingly worried when the pain doesn't ease. You get yourself to the hospital and explain to the medical staff that you have chest pains.

After seeing a doctor and other healthcare workers, you spend hours waiting for different test results. Such as: blood, ECG (electrocardiogram), allergies etc. When the doctor has gone over your results, he/she informs you that you have a muscle inflammation. It's placed right by your lung, causing chest pains. These cases of false alarm are not unusual, whether it's chest pains or something else.

Imagine if there would have been a way, where these hours could have been saved. For all the healthcare workers, as well as for the patient. Say for instance there would be a system, that with the help of statistics and information, could rule a patient out as an emergency case almost immediately.

The great news is that there already are digital solutions for this.

Digital solutions are already here.

A data-driven healthcare system, can measure and make decisions based on information, facts and statistics.

Unlike a human brain that can only contain and process a certain amount of information, a data-driven healthcare system doesn't have the same limit. All the information that is stored can be of use, meaning that no information will be lost or overlooked.

Healthcare workers have always relied on their education, experience, and knowledge, this will never change. But with technology and more people having access to healthcare, there is an increase in very complex cases coming to light. The limits for the amount of data that human beings can process, has since long been exceeded. Therefore, it can at times be difficult to have all the information needed to see the whole picture and make accurate, real-time decisions. This is where digital solutions and data can assist.

Digitalization is moving forward with incredible speed, bringing both possibilities and higher demand for digital services. In Healthcare, these services can assist with keeping all information stored in a way where it's accessible, yet safe. For patients as well as healthcare workers. When the data is stored in the same place, the system can easily access all the information needed to quickly assist with a diagnosis. As more cases are entered into the system, the system will learn and become even smarter.

In the case of chest pains mentioned earlier, a data-driven system could assist with speeding up an accurate diagnose, based on information and statistics. Reducing waiting times could, most importantly, help saving lives. But It can also help reducing cost for the organization.



The challenges healthcare faces today.

Streamlined payment processes, combined mobility platforms and more efficient public Healthcare has always been facing challenges. Bringing technology into the mix doesn't decrease the number of challenges, but it can provide more solutions.

One of the bigger obstacles that the healthcare community, and patients, are facing is the lack of knowledge about the technology, causing scepticism. It can be individual, but also on an organizational level. For obvious reasons, the need for quality assurance in the healthcare industry, is more important than in many other sectors.

Another complex issue is the one of sensitive data. Employees as well as patients would want to be sure that their information is not being shared or used where it shouldn't.

The key is for organizations to educate and enlighten employees as well as patients.

We will now look at a few steps to solve some of the challenges.

Designing the capability to create a data-driven healthcare, step-by-step.

In the future, Healthcare workers can be supported by digital tools, helping them make medical related decisions. For example, the data could recommend a doctor to send a patient home, or to the emergency room.

Also, hospitals that use the same data solution can share data. By doing so, the tool can learn from different situations. Resulting in more accurate recommendations, and potentially lives being saved.

Like many other industries, healthcare is going through a powerful digital transformation. But the ability to become data-driven is not created overnight. It's the result of using the right modern tools, to support and educate healthcare workers. Also, understanding where the data can be used to provide most value for everyone involved.

We have identified three major areas to consider when becoming data-driven:

1.

People

educate and inspire to create a data-driven culture. Provide proper onboarding and coaching.

2.

Organization

the value of the solution must be found and understood, in order to implement it in the best possible way. Also, the organization must have the right conditions and skillset to recruit and educate.

3.

Technology

new developed technology with very high security, promotes innovation.

Becoming data-driven is all about:



Step 1: People

– Creating a data-driven culture.

As with all important changes, becoming data-driven has its own challenges. Creating and implementing the architecture is not all easy. Identifying the relevant cases are not always obvious at first, but the reward is great. It is the same with getting people onboard, ensuring the right skills, adapting new processes, and creating a data-driven culture. It requires time, change management skills, and strong dedication from leaders to make it happen. If you succeed with showing the value for everyone involved, and put focus on the change management, it will happen. Then the whole organization can take a leap forward. The road ahead includes many areas to consider, and you need to have the base set before you start with the changes:

- **Data literacy.**

Being able to translate data into value, requires experience from handling and understanding data. It also requires sufficient organization and domain knowledge to understand where data can be applied, to create organizational impact. Your employees need to be trained to be skilled in this area.

- **Legal and ethics.**

The organization must understand regulations in different areas, both national and international. Then they can provide the employees with the right documentation, to keep everyone informed and updated on rules and regulations. Not least in terms of who should have access to which data. A doctor should have information about a patient's health and medical history, but not the patient's finances. A common discussion is the storage of personal data in the cloud. There are major benefits with the cloud that are essential to offer the services discussed above. However, this is an area that can affect the possible IT architecture and might call for hybrid solutions. Combining both cloud and on-premises solutions. From an ethical perspective it is important to consider how the collected data will actually be used. Many people fear the growing organizations abilities to monitor movements and use surveillance. It is therefore of the highest importance that you have clear guidelines of how data should be used. And of course, to follow regulations and have clear and honest communication with patients, on how the data will be used and made accessible.



- **Agility.**

Working in an agile way by researching, validating, and pivoting is the normal approach. Which can differ from how organizations are used to working, this is a creative process. The organization need to be able to identify use cases and areas where data can be applied, to create value for the patient. This might require data discovery abilities and if you do not have this competence internally, it could be an idea to get external help.

- **Trust in data and new processes.**

Finally, a data-driven culture is an organization that trusts its data. Processes are adapted, manual steps removed or automated. The organization is empowered to trust and act on insights and new ways of working. As AI and Machine Learning are applied to a greater extent, it can assist healthcare workers more and more in decision-making. Decisions could be served as suggested actions for a human to decide on. This requires trust in the core values. And knowing that ethical aspects and regulations are considered and followed. It also requires an understanding of how data is applied and how different actions impact the organization.

Step 2: Organization

– Data-driven applications.

With the data in place, healthcare will be able to measure and follow up on patients. This will make it possible to make the right decision. Within healthcare there is an area that we suggest can become more data-driven:

Process automation and optimization.

Many processes are manual by tradition. The outcomes are based on experience and history and might not use all data available. This results in decisions that are not always based on facts. As a result, a patient's condition will be detected much later than it should have.

Another benefit from collecting and optimizing the data, is that you can create a common work process. This means that healthcare organizations will be able to follow up on processes and evaluate efficiency.

Time is saved when everything is available in one system and work processes are cut shorter. This leads to higher efficiency for the organization, and better healthcare for the patient.



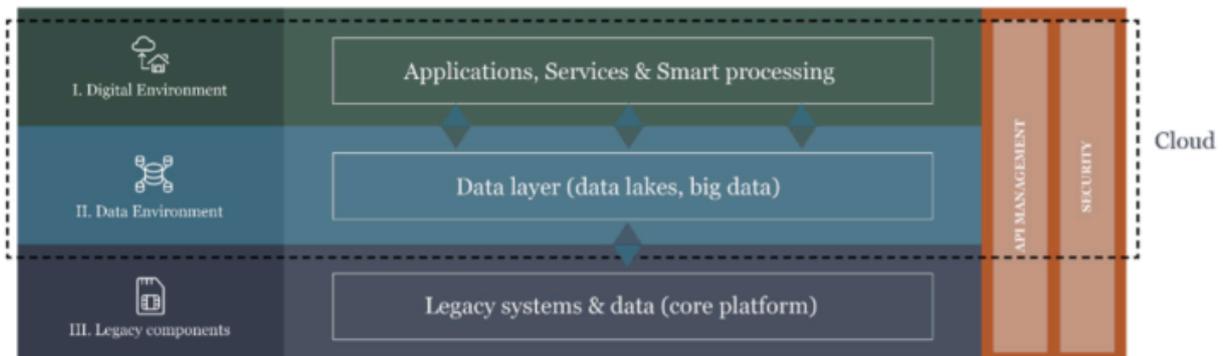
Step 3: Technology

– A data-driven architecture.

To be able to make data work for you, it must be made available and reliable. The technology will enable collecting and structuring data for accessibility, which are critical activities. Common sources of data within healthcare are for medical records, claims data, vital records, surveillance, disease registries, patient surveys and comments, and administrative databases. The data that should be collected must be carefully selected, considering both legal restrictions and ethical values.

A data-driven architecture.

To be able to make data work for you, it must be made available and reliable. Identifying which data to collect and structuring it for accessibility are critical activities. Common data sources within the real estate industry are for example documents that belong to a specific building, but could also be information about a commercial lead that is looking for their new business premises. The data that should be collected must be carefully selected, considering both legal restrictions and ethical values.



A data-centric architecture draws on all the advantages from the cloud.

Creating a data-centric architecture will provide the capabilities to both collect, store, analyze and build applications and services. It decouples the data layer from old legacy systems, as seen in the image above (the light blue section in the middle). It is favorable to build the data layer in the cloud. It enables you to draw on all the advantages like security, new technology, services like AI and real-time analysis, and not least the capability to scale the solution as needed.

Where is your organization in terms of becoming a data-driven healthcare provider?

We help our clients to become sustainable data-driven organizations – through delivery of technology and strategy implementation for smart decision-making. We make sure that we understand your goals and how you work today. We will show you how you could work tomorrow, by using your data to your advantage and by changing your working processes. We will help you all the way from strategy to technical implementation.

There are many possibilities for greater healthcare! If you are interested in knowing how data-driven your organization is and how you can take it to the next step, give us a call.

Or if you are just curious, we are here to tell you more.

Contact us and let your journey begin.

Get in touch

Read more

Stratiteq is a premier consultant company for forward thinking clients who aim to become sustainable data-driven businesses. We empower clients to take control of their digital future through optimizing their data, shaping technical solutions, innovation and by driving organizational change.