



Ideell og innovativ samarbeidsorganisering og helseinfrastruktur i 2020

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”Helsesektoren til en viktig arena for innovasjon og nyskapning”

Rikshospitalet – Radiumhospitalet HF



RRHF is the national university hospital of Norway, main location is in the capital of Norway, Oslo.

- 8 000 employees, 11.500 IT- users
- In patients 80 000, out patients 200 000 per year
- 800 beds

Our focus areas are:

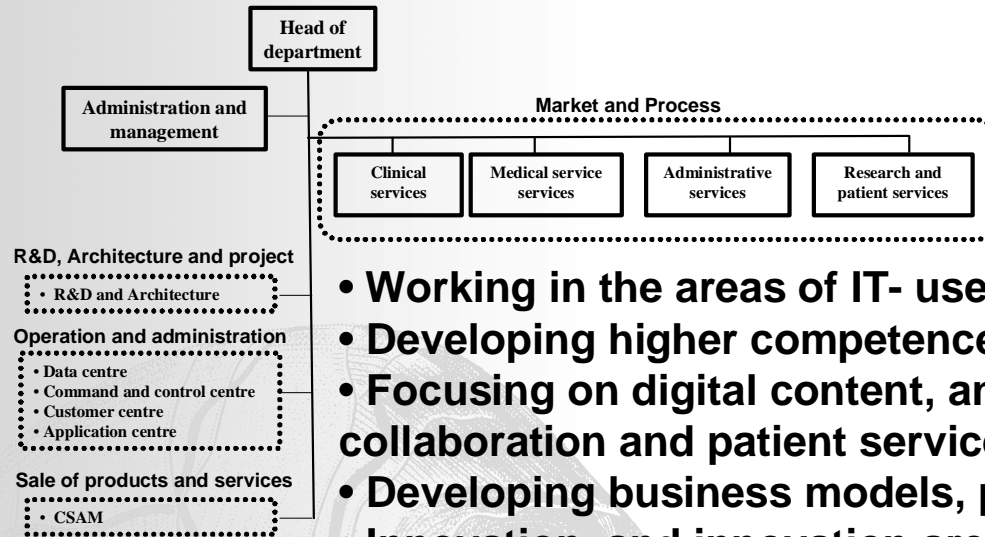
- Advanced patient treatment and care
- Research
- Teaching and education



Specialised functions such as:

- Organ transplantation
- Bone marrow transplantation
- Specialised heart surgery for children
- Specialised neurosurgery
- National reference centre for cancer diagnostics
- PET Positron Emission Tomography

IT- organization and development at RRHF



- Working in the areas of IT- use, IT- development and IT- production
- Developing higher competences in business intelligence and usability
- Focusing on digital content, and digital services for own use, collaboration and patient services.
- Developing business models, products and services.
- Innovation and innovation arenas for IT and healthcare.

Developed products for commercializing and IT/healthcare companies:

Clinical portal: Solution for collecting, process and present clinical information to healthcare providers. An integrating and collaboration tool.

Csam International AS: Commercial company for bringing clinical portal to the market.

Today customers in several part of the world.

CSAM AS: A new kind of service provider, focusing on innovation, change, and financial aspects of information development in healthcare. Bought back to RRHF in 2006.

The healthcare environment is changing !

Influences the way we must look at IT..

Focus on
productivity and
efficiency

There is a huge focus on productivity and efficiency, all governments want more healthcare produced for money spent in providing healthcare

Increased
competition

Healthcare providers face more competition both domestic and abroad. Government regulations open for this in several areas. Public and private offerings are competing.

Changing
finance
conditions.

Has anyone found a good way for the right pricing of healthcare ? Due to this, finance conditions are changing as knowledge for this gets "better" .

Increased
degree of
activity "sharing"
and specialising

In Norway, new work relations and activity sharing has already taken place due to the focus on productivity and efficiency and this will increase the next 3- 8 years.

New medical
technology and
new treatment
forms

Development of new medical technology and new ways of doing treatment will continue to accelerate. The challenge will be to enable wide scale use and efficient implementation (cost, time and usability skills).

Empowerment of
patients

Patient rights are increasing. eg. The right to choose where to receive care.. The patient is getting more skilled and are taking over the control of his/her treatment plan and follow up.

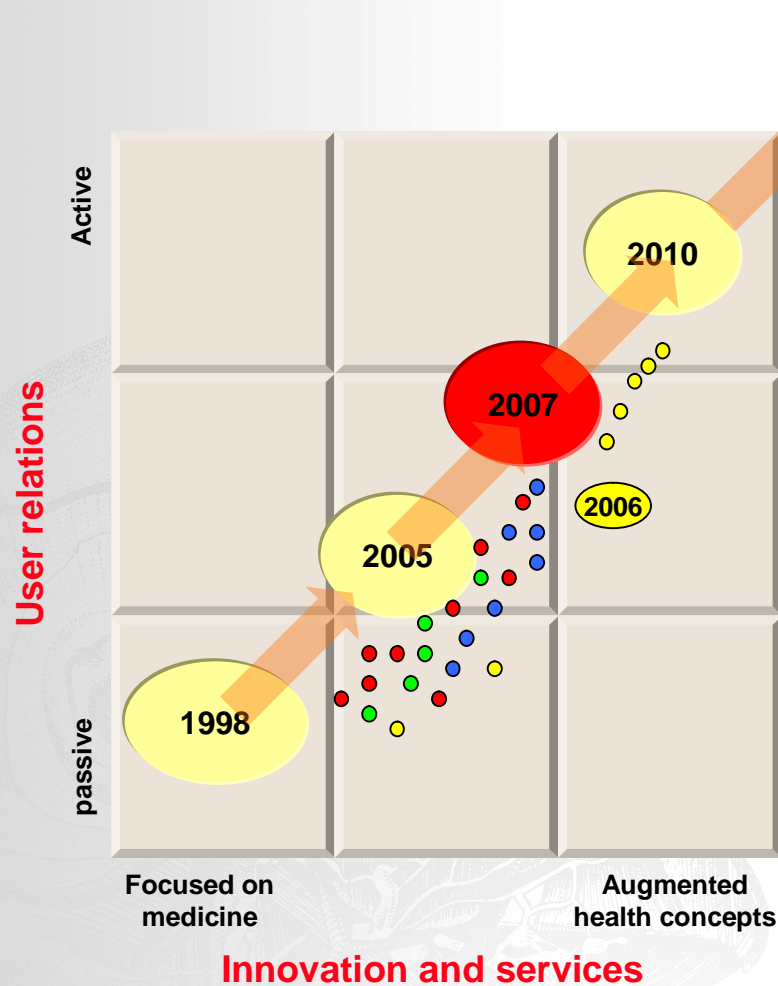
The Digital Hospital.

To answer the many challenges in the healthcare community, all healthcare providers are working with projects to become a digital, or a paper less – paper free organisation.

At RRHF we have divided the future in two big conceptual steps.

- To become a Digital Hospital, where all information is available in a digital format.
- To develop the hospital based on a digital information platform. Including patient care production, patient communication and services, collaboration, research and education.

IT has to be about aligning electronic information and services into the way we provide care.



Integrating healthcare with life style.

- Collaborating “health networks”

Changing and building the business.

- Business process reengineering
- Securing modernization and development.
- New services and new ways of doing things.
- What is possible ???

Building the “electronic hospital”.

- Building the IT- solution
 - Digitalizing information in the hospital
 - Remove paper
- Establish a framework for changing the business
- All information accessible through a clinical portal, in a secure manner, based on the role and the function of the user.
- New information services, and information offerings
- Basic benefit realization programs

The user relations in 2020 !

- User relations are becoming increasingly more active than ever before.
- Population are used to bundled technologies, and that information can be reused in a different context
- Power over information is shifting towards end- user demands.
- Relevant for all user groups, healthcare to healthcare, healthcare internally, healthcare to end user, research, and to interest- groups.
- The way that the information is getting to be presented is the same way we se in the internet space today.
- Healthcare are going to accelerate in this direction in the time frame to 2020 !

Innovation and services in 2020 !

- Are we going to see or talk about the “virtual” hospital as we have been doing with “virtual” companies ?
- A set of health- service providers that collaborate for delivering the “best” health service to the customer.
- Are those services going to be stopped by country or region boundaries ?
- This kind of services are being developed and delivered today. USA is buying a lot of services abroad, teleradiology etc.
 - Health traveling
 - Health city in Dubai.
 - Etc.
- Health service- providers will by 2020 cooperate in all of EU, a health network and collaboration model need to be developed to support these kind of models.

How to think about IT in healthcare ?

Is IT a solution, and servicing a point solution for a dedicated problem ?



- Focusing on dedicated problem, one vendor one solution
- Not a holistic view of information.
- Solution vendor is a key word.
- ***EPJ is the solution***



OR is IT a solution- set, and servicing a eco system of solutions and services ?



- Focusing on the possibility to reuse information in a new (not thought of) context.
- Every solution is a part of a eco- system.
- Not one vendor, but several
- Integration and reuse is key words.
- ***EPJ is the toolbox to develop new services***

ICT development towards 2020

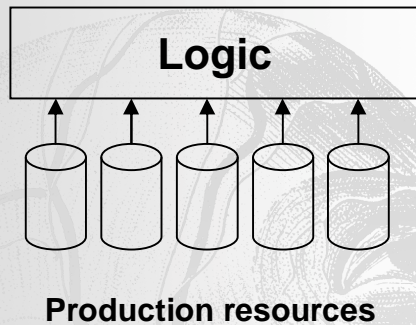
- ICT is decreasingly about ICT technology, ICT is more and more about the use of information in different contexts.
- ICT solutions is heading towards a bundled set of services, and not point to point solutions.
- The dominant vendor in the healthcare industry for ICT, is not going to be a vendor only for the healthcare market but is going to be a vendor that understand and support the eco system of healthcare information flow.

ICT development towards 2020

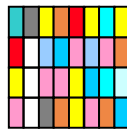
- The end user and owner of information is going to be more dominant in the future development of ICT in healthcare.
- The ICT systems is not going to be only for internal healthcare use, the winners are going to be the ones that can share information and develop new services on top of other services. E.g.. Look what mash-up technologies is doing today in other industries

Example: Customer relationship in Healthcare !

- How do we optimize the resources we have to produce services ?
- We have a production oriented view of resource optimizing !
- The customer get what he/she get, at the time we have available.

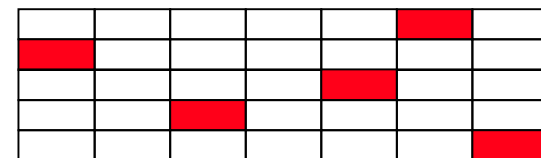


Doctor time table:



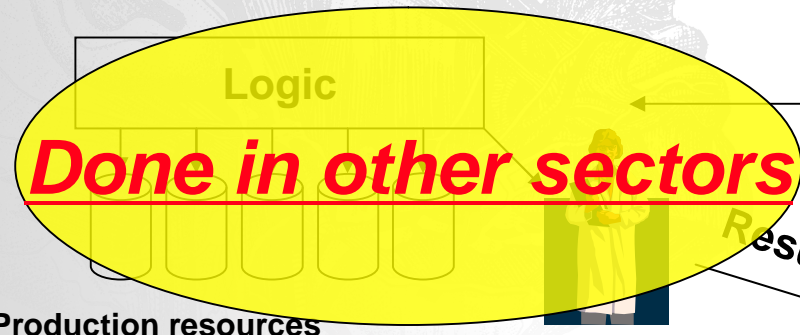
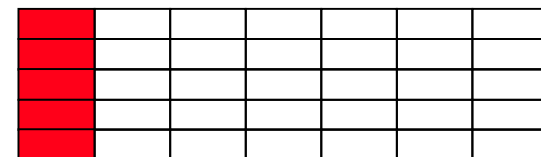
Result of logic !

Olga time table over one week:



Customer relationship :

Olga time table over one week:

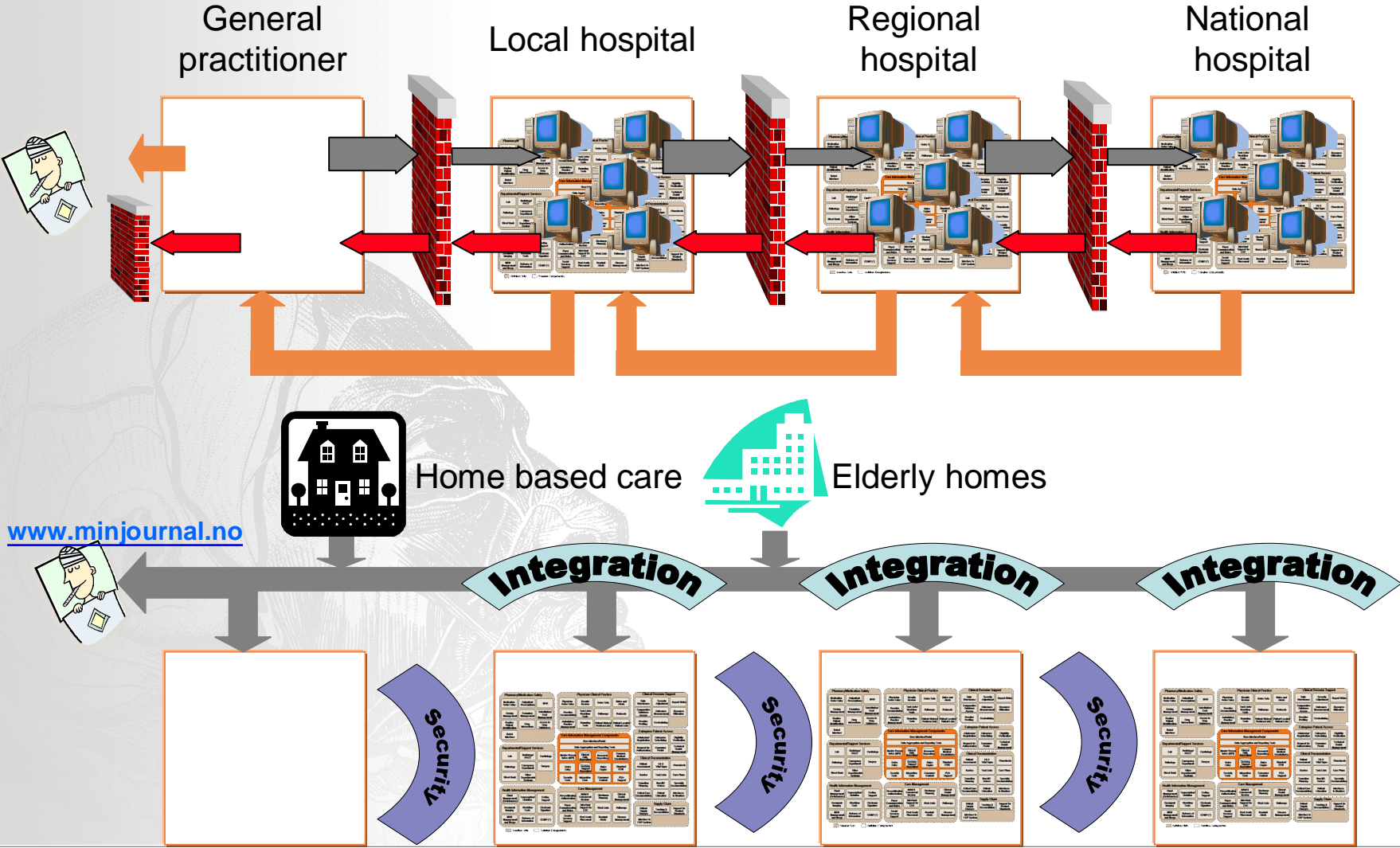


Result of logic !

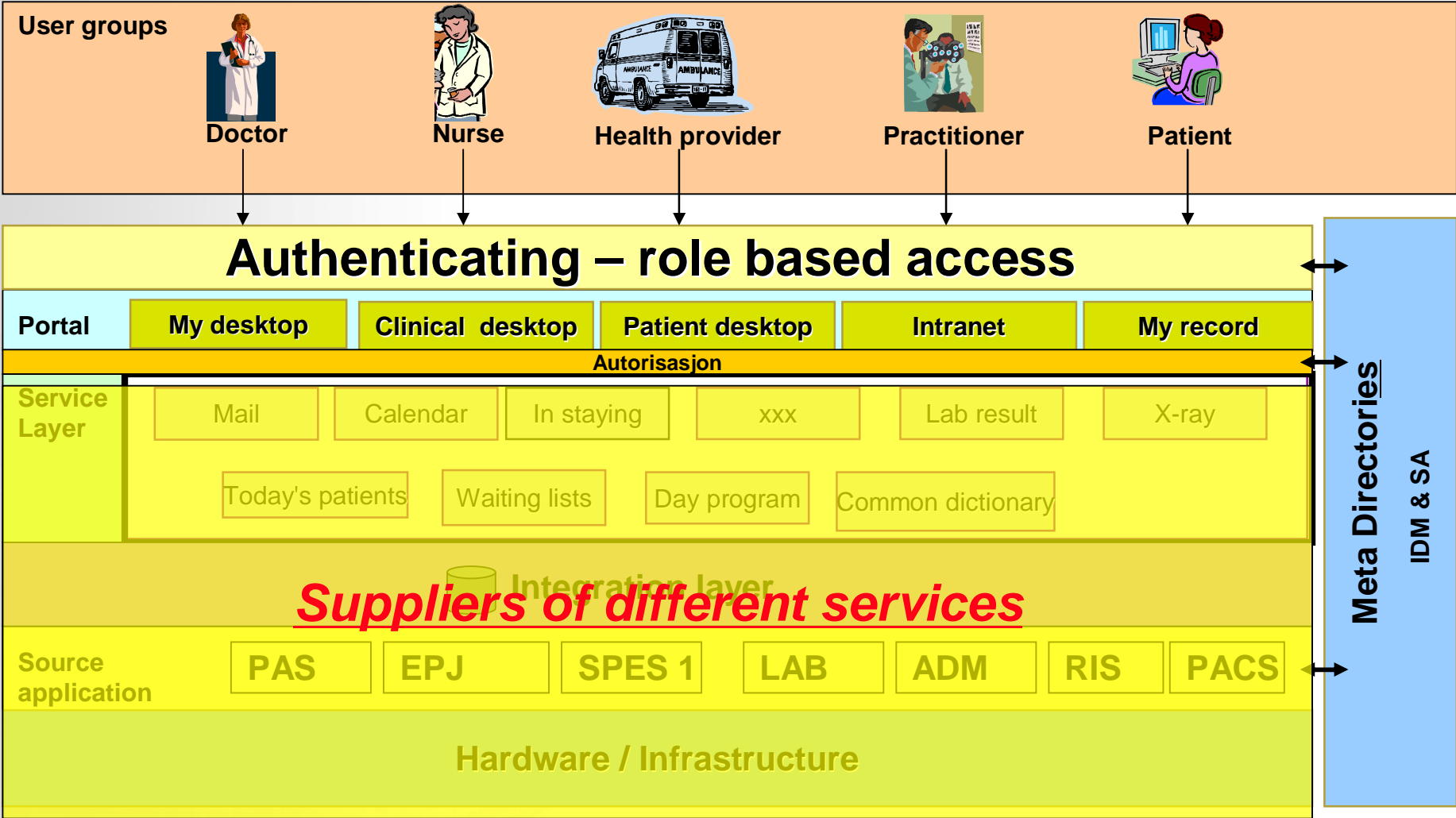
Doctor time table:



Integration network as a tool for information flow between health organizations



Conceptual view of the solution:



The connected network for healthcare!

- The big question in healthcare network, is not the network itself. It's the use, the possibilities and services that are available in the network that is important.
- The question should therefore be: what kind of services is needed to be able to make a collaborating network ?
 - Do you communicate with people only because all people have red phones ?
- The focus need to be shifted towards establishing a network operator (eg. telenor), and BBS (for secure communication).
- It is more important to focus the building of registers and standards to be able to build integrated solutions. Not to build centralized services itself.
- Diversity is a good thing, it stimulates to creativity and growth
- Make a good arena for service and content suppliers to deliver products.
- Norway need arenas for developing knowledge, services and solutions in a cooperation between a public sector and private companies.

Big “hairy goal” for innovation in Norwegian healthcare !

- Established a Norwegian healthcare and ICT innovation cluster in Oslo (NHIIC). NHIIC built on the foundation of the three big university hospital's, university, academia and the ICT knowledge business in the region.
- The NHIIC should focus on both ICT solution's and ICT usability, and by that cover the entire echo system of healthcare information, use, and services.
- Norwegian healthcare and ICT innovation cluster is as recognized in Europe as MIT and Harvard environment is in the USA.