

*Knowledge and Passion*

## Medical IT and Cybersecurity



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## A brief history

- Founded 1978, as a research spin-off from Linköping University.
- SECure TRAnsmission
- Started medical operations 1990.
- Founders still in control. Management are shareholders.



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## Main business areas



IT for medical imaging

## IT for Cybersecurity



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## Growth opportunities outside of main business

### Business Innovation



Medical education



Software tools for  
orthopedic surgery



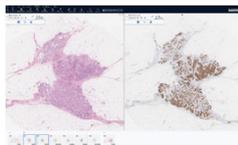
Research: AI and  
Machine Learning

### Secure Communications



IT security for  
critical infrastructure

### Imaging IT



US market  
Digital pathology

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## The Sectra brand and its promises

- Sectra acts in markets where failure is not an option.
- Requires: Customer obsession, Stability, Quality and Trust!
- Provides: Healthy prices and large barriers of entry.
- The **Knowledge** to meet expectations.  
The **Passion** to exceed them.



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Knowledge & Passion

## The Sectra brand and its promises



The Sectra brand is our most valuable asset and this is what it shall convey

- Trustworthiness
- Stability, kept promises and honesty
- Quality and customer obsession
  - We will NEVER let a customer down, even if it means a hit to ourselves
- Premium product, Premium price

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## Philosophy – Markets

- Profitable growth is easier in growing markets
- The healthcare and cybersecurity worlds are in rapid change, and:



*”Where there is change, There is margin!”*

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## Philosophy – Customers

Quality is profitable!



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## Philosophy – Staff

It begins with:

*Hire for Attitude and Ability,  
- Train for skill!*



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The first method for estimating the intelligence of a ruler is to look at the men he has around him.

~ Niccolo Machiavelli

AZ QUOTES

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And continues with:

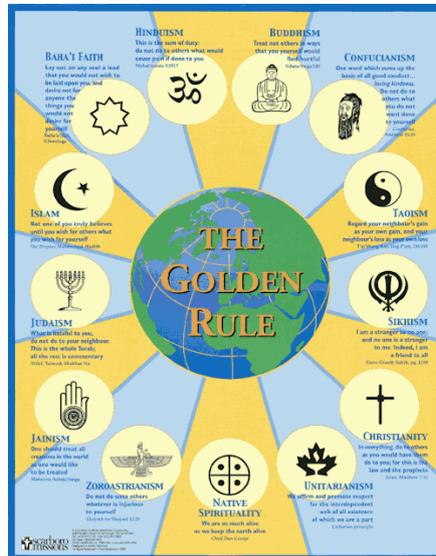
“Culture eats Strategy for breakfast!”

“Some famous guru”



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And live and act:



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How do you build lasting competitive advantage?

- Product?
- Promotion?
- Place?
- Price?
- Process?

**People!**



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## Philosophy – Costs

- "Cost control is a virtue"
- It is difficult to control cost by rules  
- culture is required



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*"Jag vill hellre att mitt folk ska skratta åt min sparsamhet än gråta över min slösaktighet."*

Oscar II,  
Kung

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## The main rule of war at sea



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## Define a goal and stick with it!



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## Philosophy – Shareholders

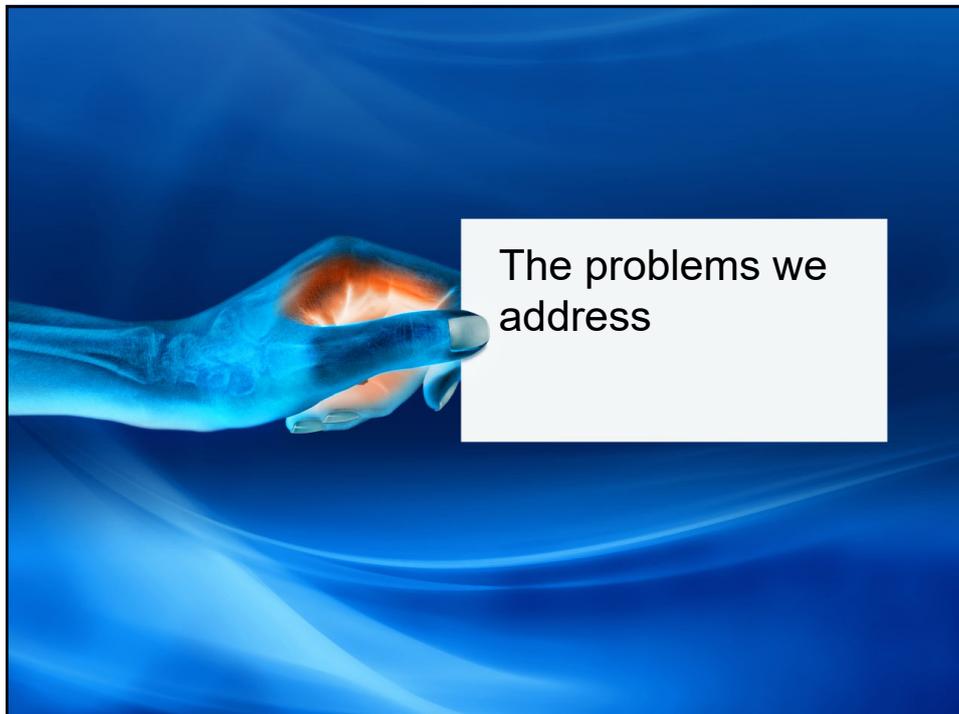
If you have

- Happy customers
- Happy employees
- Perseverance and reasonable cost control
- A rational long-term strategy in growing markets
- Then shareholders WILL be happy



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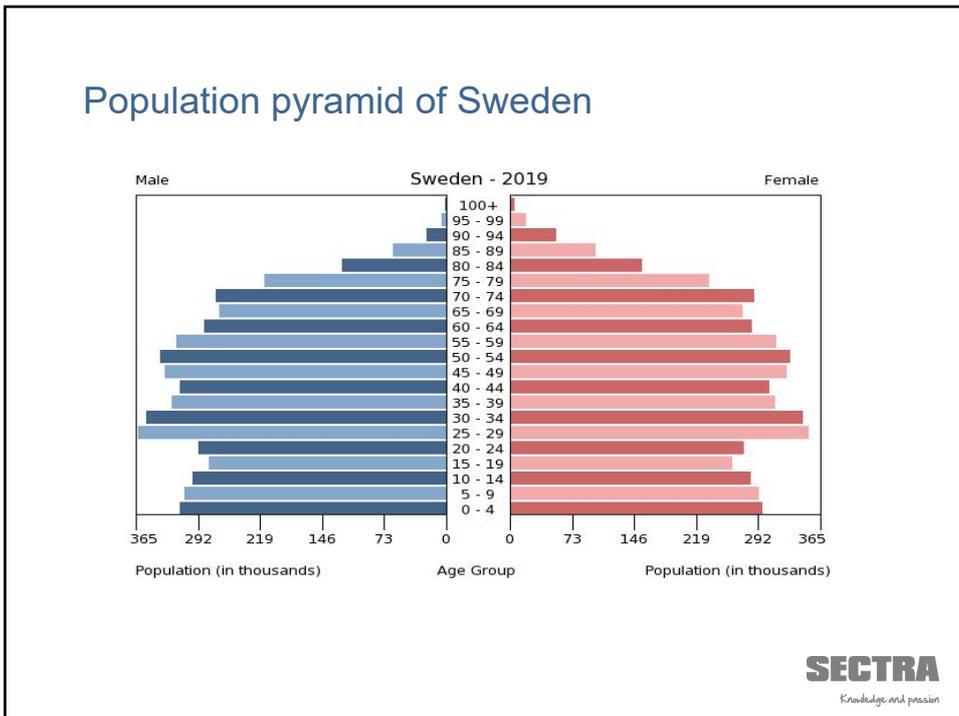


The problems we  
address

23

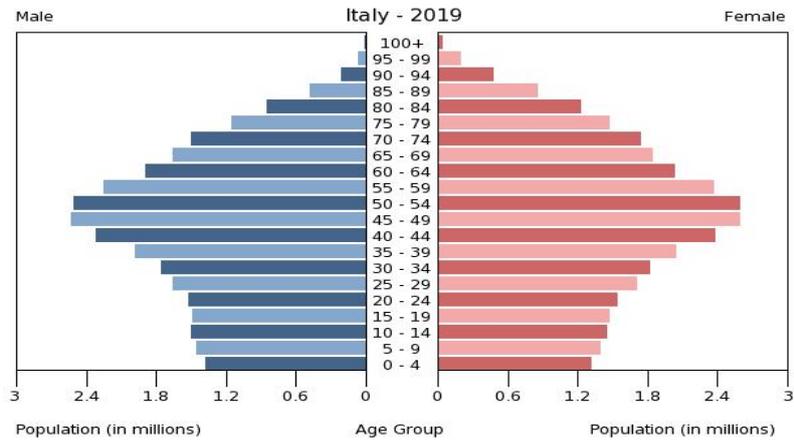


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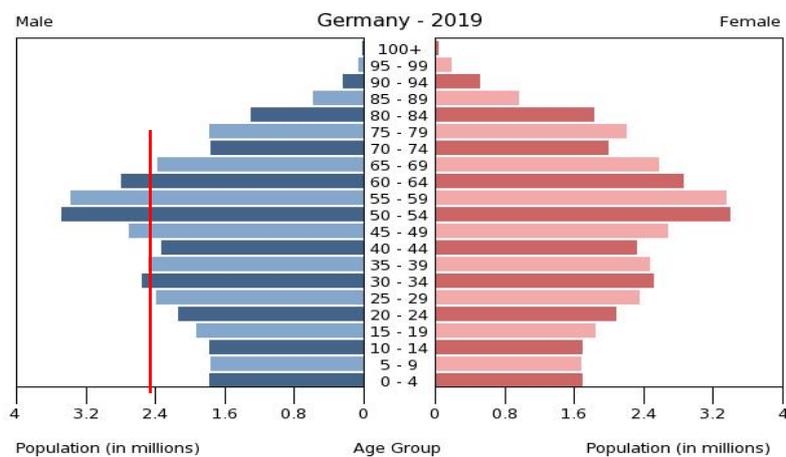
## Population pyramid of Italy



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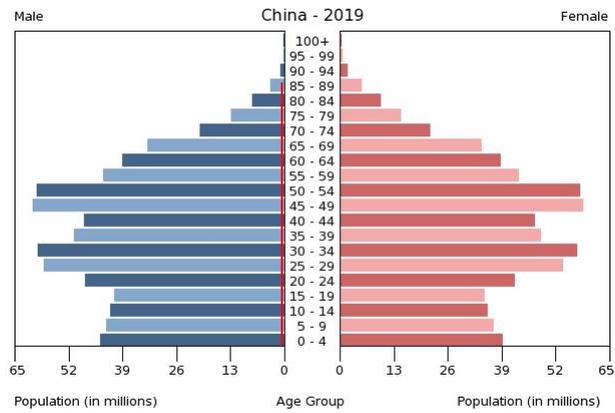
## Population pyramid of Germany



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## Population pyramid of China



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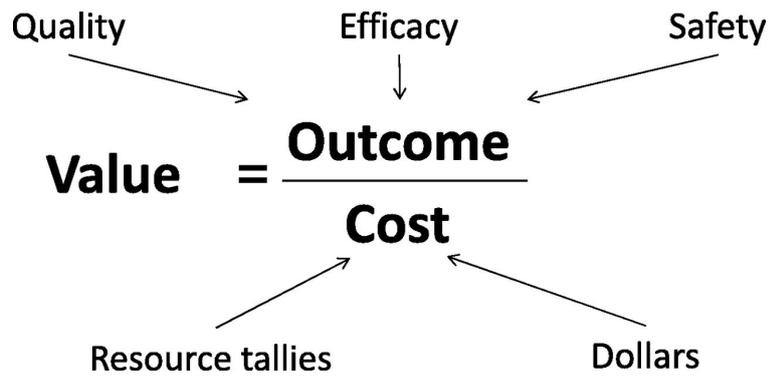
+ longer lives

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Healthcare's difficult equation:

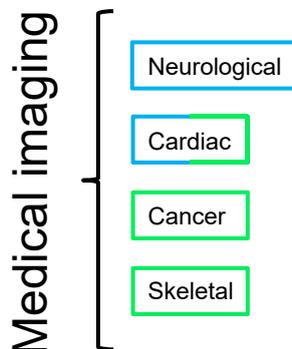


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Medical systems  
**Growth areas**

Age related diseases:



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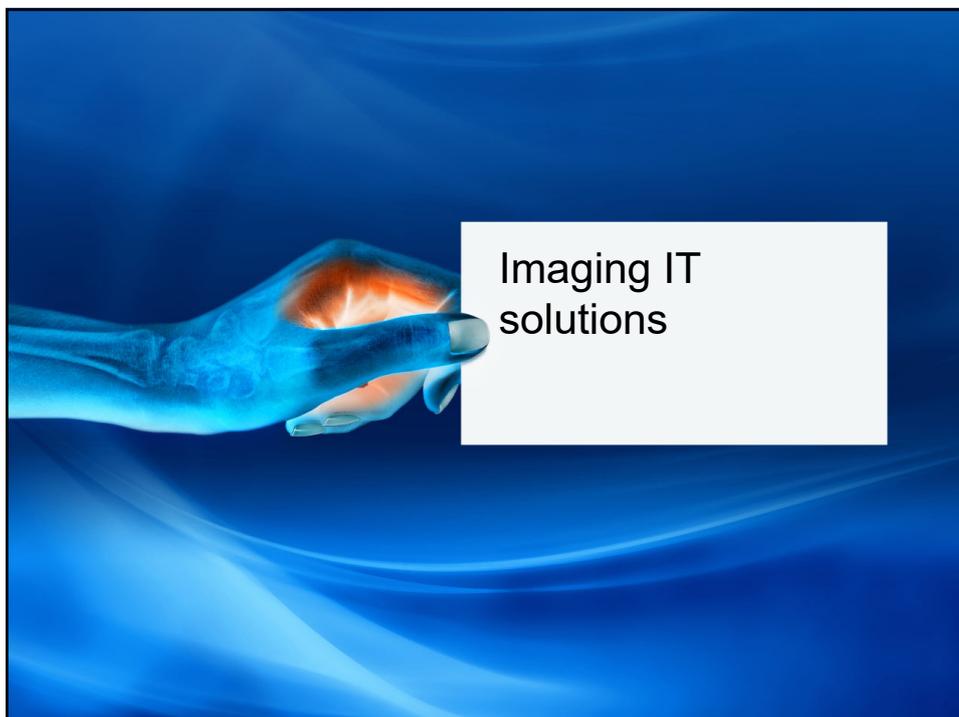
## Our mission statement in medical

To increase effectiveness of healthcare,  
while maintaining or increasing the  
quality of care.



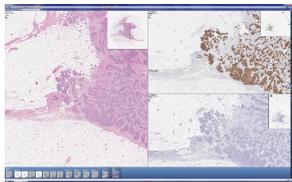
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## Imaging IT Solutions



- The main business in Sectra
- Transforming from Radiology PACS to Enterprise Image Management
- Special focus on cancer diagnostics
- Radiology, Breast imaging, Pathology...

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## Imaging IT Solutions Main customer groups

- Large hospitals or group of hospitals that are growing by mergers & acquisitions
- Need of flexible and scalable solutions
- Need a very good communication infrastructure for synergies
- Willing to pay for quality!



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## 1,800 reasons to trust us



**Region Skåne, Sweden**  
1,000,000 radiology exams per year. Customer since 1997.

**Northern Ireland's Department of Health**  
1,200,000 radiology exams per year. Customer since 2008.

**University of Pennsylvania Health system, USA**

**University Hospitals of Cleveland, USA**  
About 1,000,000 radiology exams per year. Customer since 2010.

“Sectra has delivered some of the largest installations of radiology IT systems worldwide”

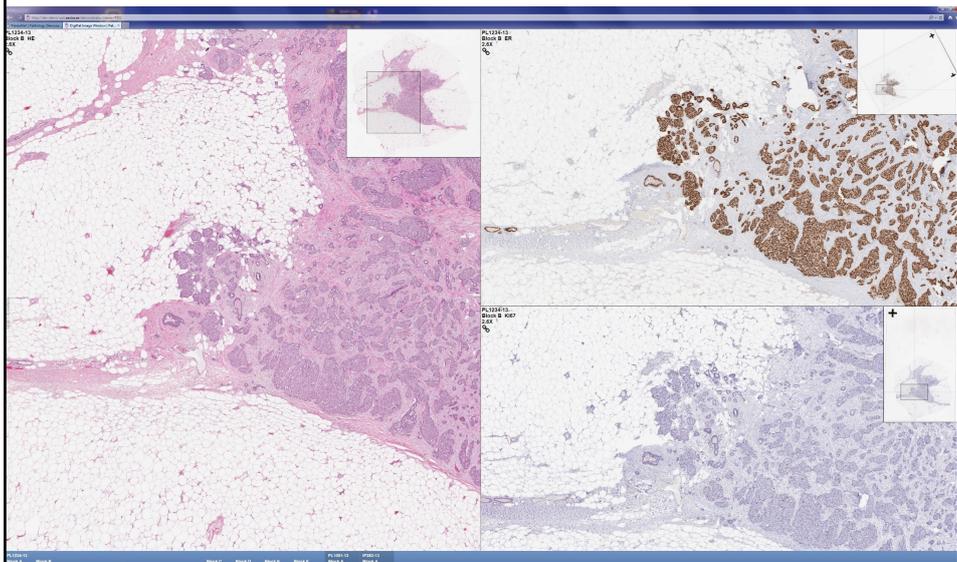
With the highest uptime recorded



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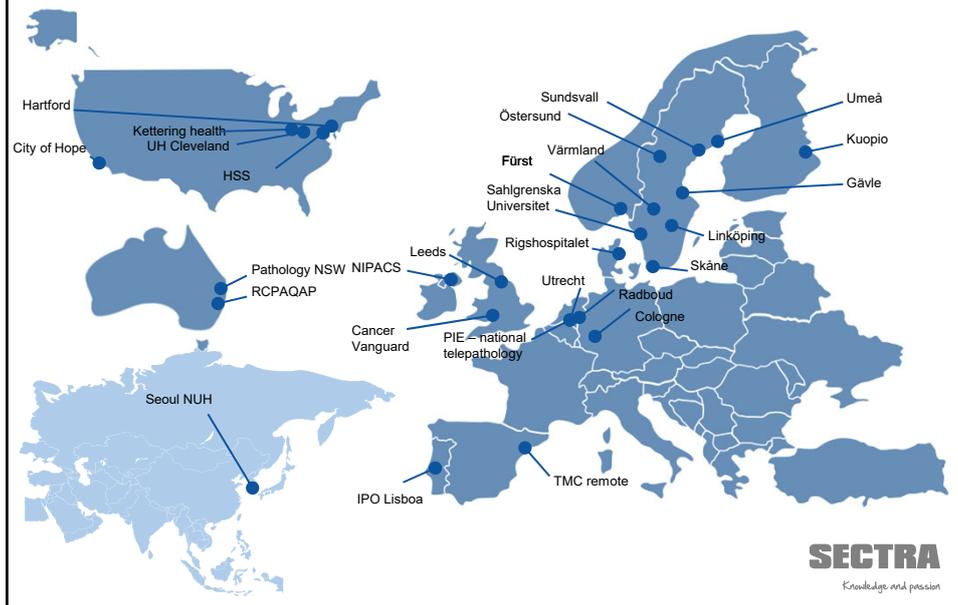
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## Digital pathology – the next wave in digitization



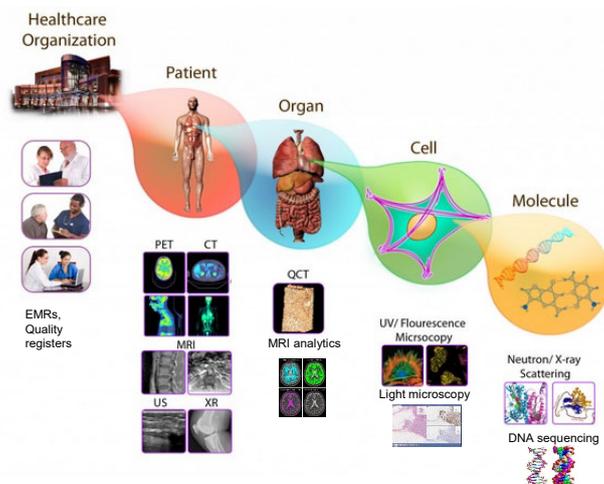
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## Sectra Digital Pathology worldwide (including test installations)



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## The long term vision in medical: Multiscale Diagnostics; "Poputype" to Phenotype to Genotype

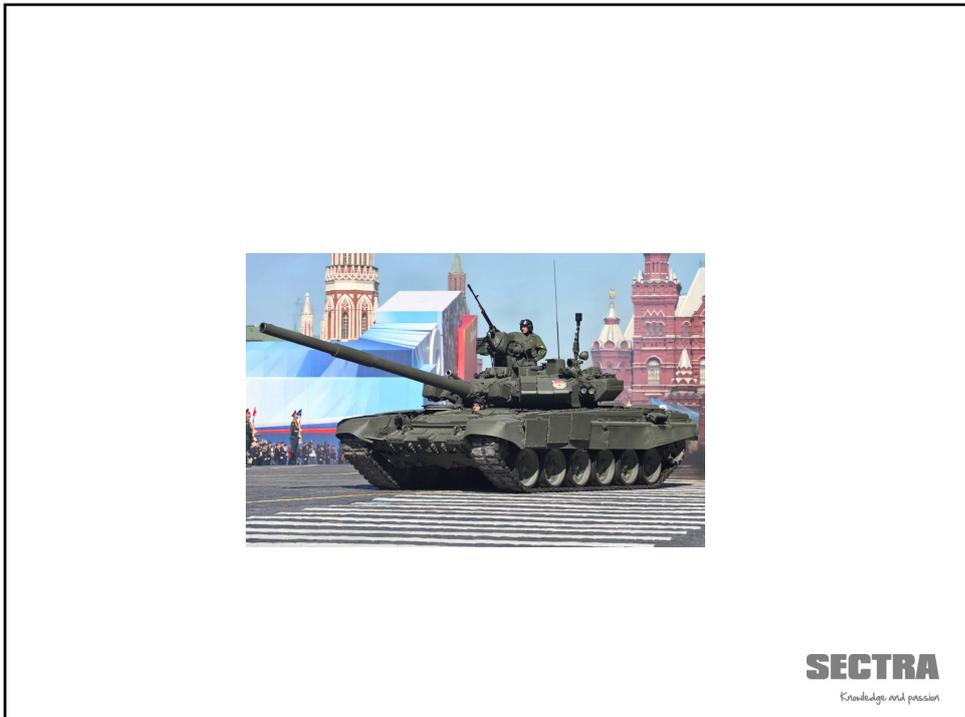


Underlying slide from: University of Tennessee, Biomedical Engineering

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19 januari, 2019

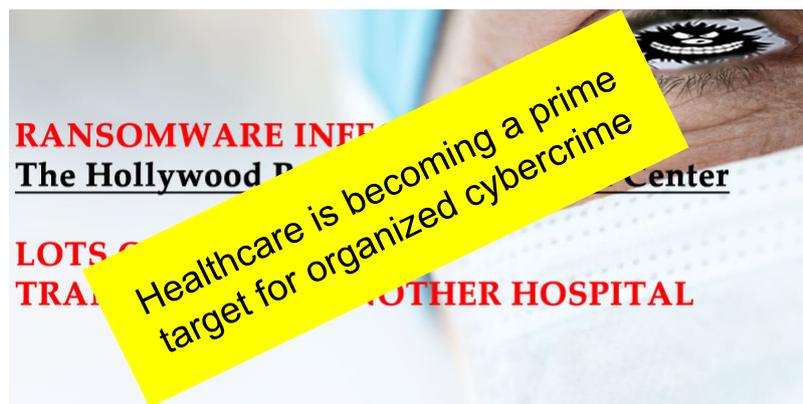
**SVENSKA DAGBLADET** Nyheter Näringsliv Kultur Ledare Debatt Tidningen

## Mustchefen varnar för stora attacker mot elnätet

Säkerhetshotet mot Sverige är allvarligt, enligt Musts chef Gunnar Karlson. Svenska företag har varit naiva inför främmande makts industrispionage, anser han – och varnar även för storskaliga cyberattacker mot elnätet.

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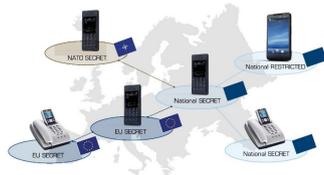
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## Secure Communications



- Cybersecurity at the highest conceivable levels
- Secure mobile ecosystems  
High speed digital network encryption
- Growth area: Cybersecurity for Critical Infrastructure.  
Initial focus: power production and distribution

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More than half of the EU member states trust  
Sectra for their most valuable secrets.

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Dan Brown

## CHAPTER 5

The shrill ring of his phone drew the provost's gaze from the calming mist of the Adriatic, and he quickly stepped back into his stateroom office.

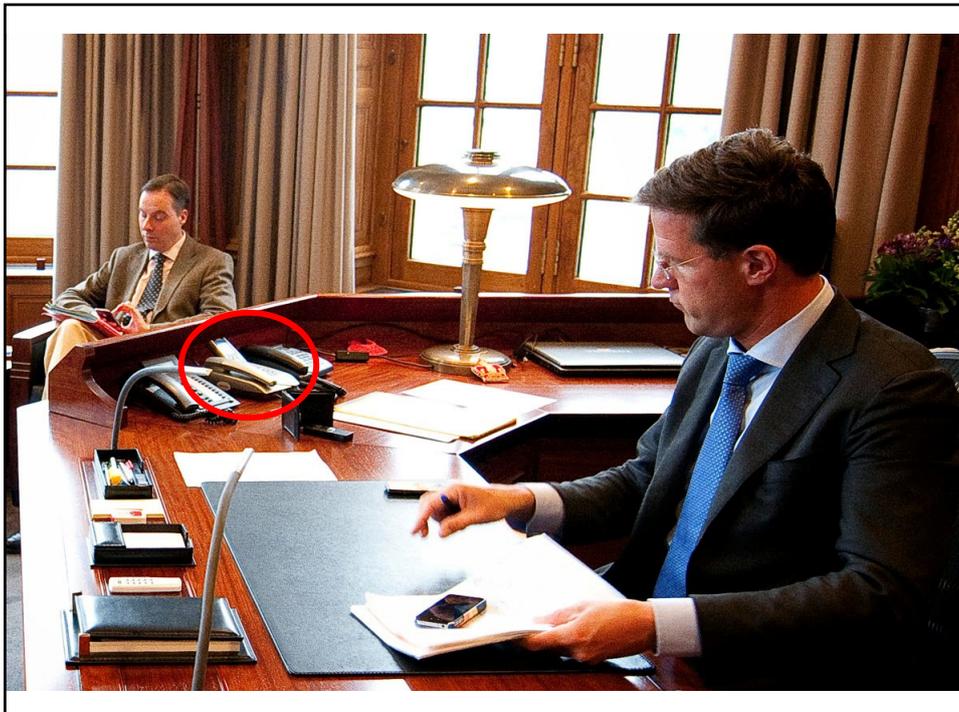
*It's about time*, he thought, eager for news.

The computer screen on his desk had flickered to life, informing him that the incoming call was from a Swedish Sectra Tiger XS personal voice-encrypting phone, which had been redirected through four untraceable routers before being connected to his ship.

He donned his headset. "This is the

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## Problem areas to solve

1. You, and I, are wire-tapped!  
Threatens individuals, companies, nations and society!
2. Our most critical infrastructure is controlled by IT.  
It needs protection!



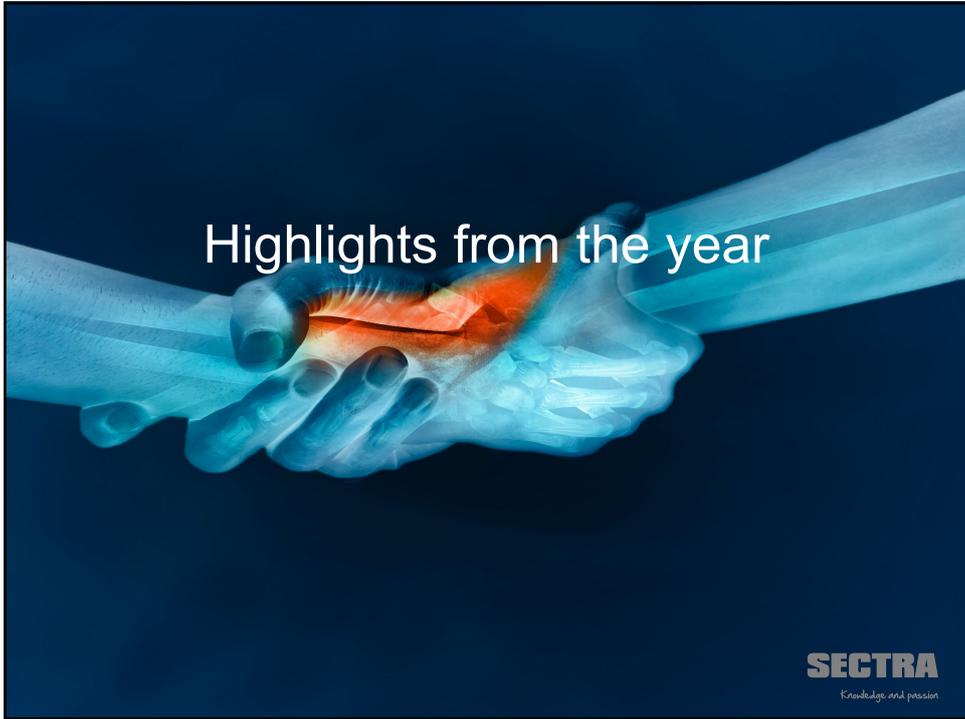
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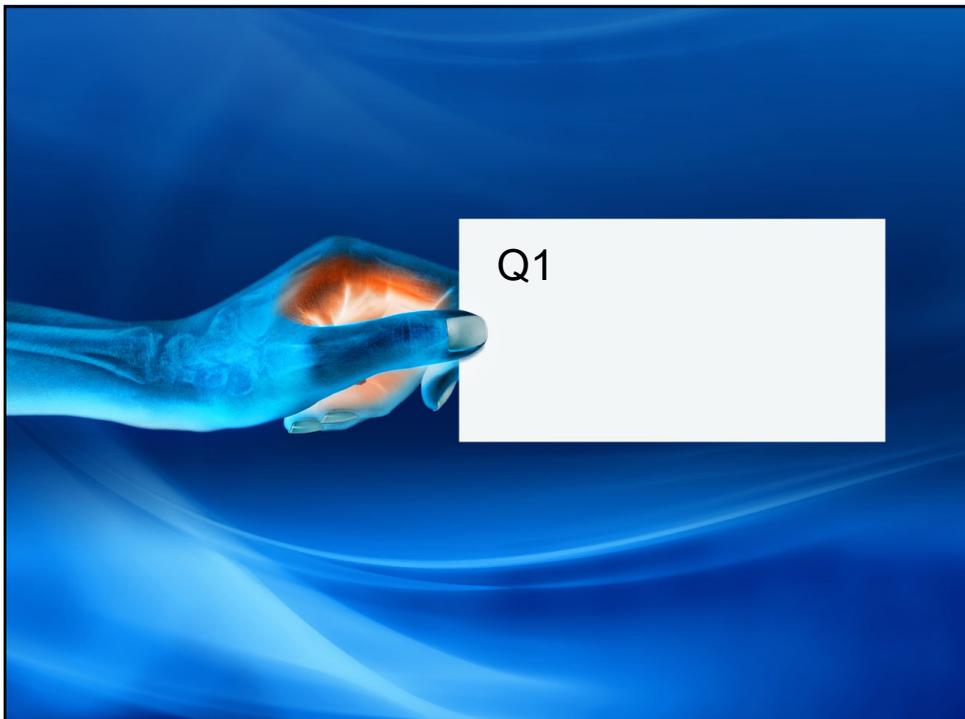


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## Imaging IT Solutions

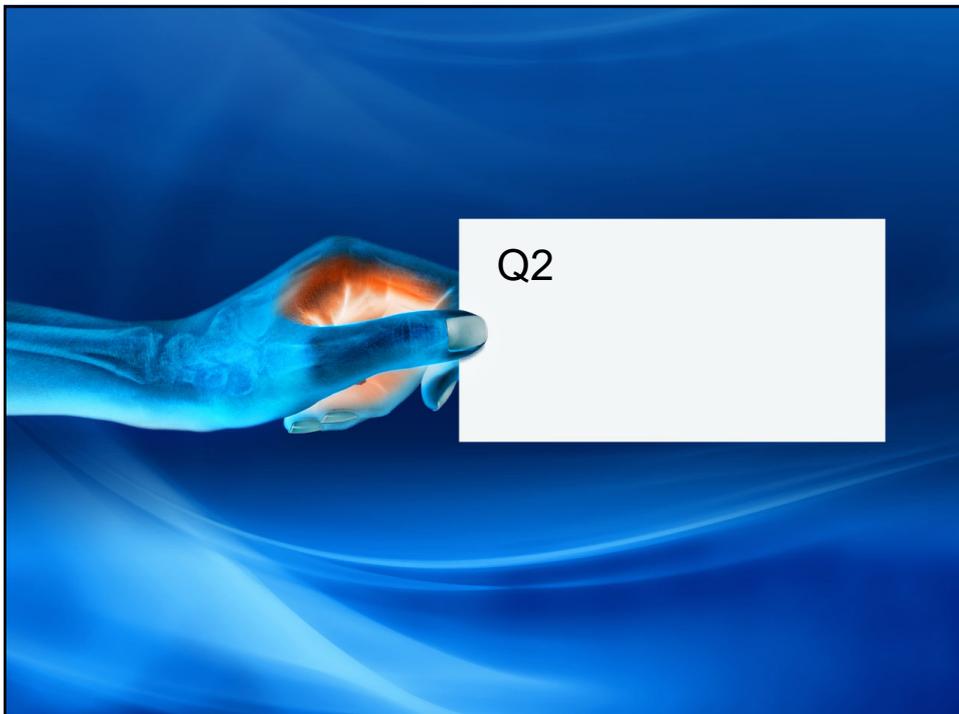
US orders received:

- Sanford Health, a major US hospital chain primarily operating in North and South Dakota.
- Sectra completed a unique nationwide telepathology solution in the Netherlands.
- And many more orders, especially in the US.



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## Imaging IT Solutions

Sectra signed an agreement for PACS with the world-renowned university hospital Stanford Health Care and Lucile Packard Children's Hospital in the US.



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## Imaging IT Solutions

13-year contract with NSW Health - Australia's largest public health system.

Order value approx. SEK 560 million.



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## Imaging IT Solutions

Breakthrough in the new markets for direct sales. Orders from:

- » Canadian hospital  
Trillium Health Partners
- » French hospital  
Centre d'Imagerie Médicale de  
l'Hôpital Privé d'Antony



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## Secure Communications

- NATO order for the Sectra Tiger/S encrypted mobile phone .



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## Secure Communications

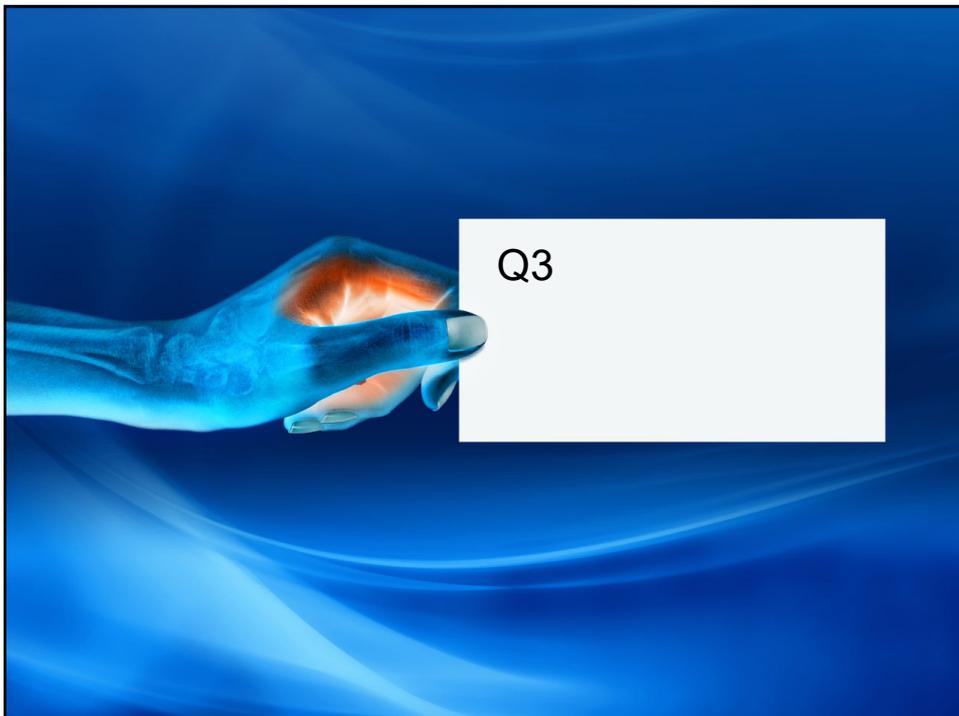
Synergies with our medical imaging IT operations:

Secure smartphones, Sectra Tiger/R, delivered to two Swedish healthcare regions.



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## #1 in customer satisfaction – 6 years straight

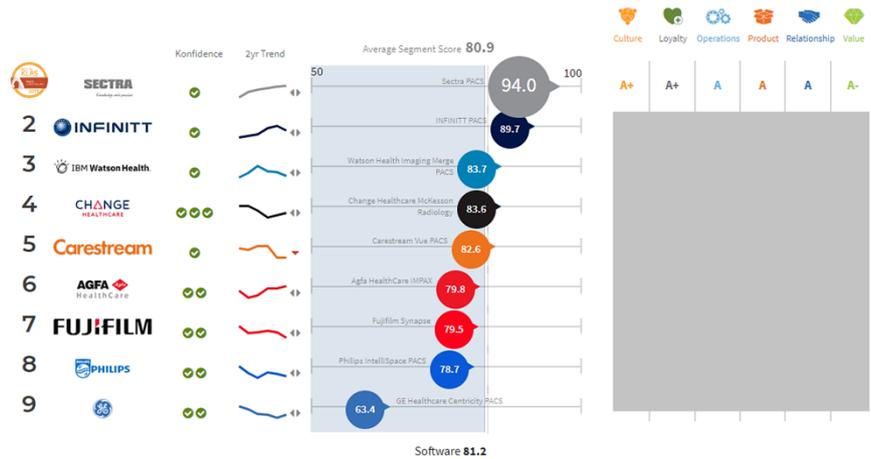


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## Sectra's KLAS 2019 scores: US

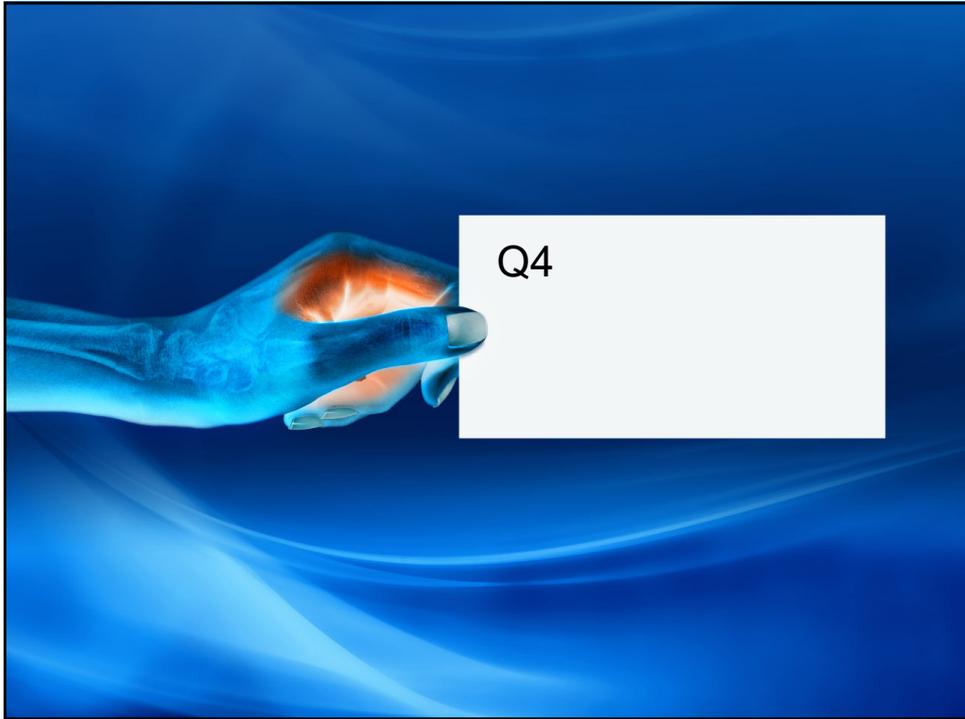
How do vendor solutions compare?



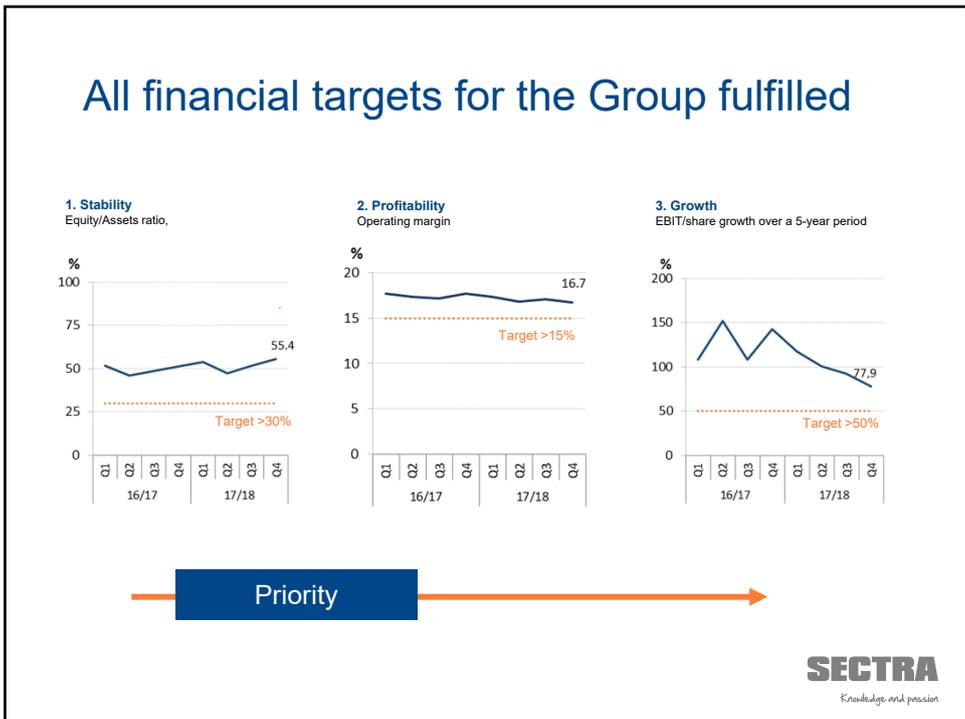
(A+ = 95.0+, A = 91.0-94.9, A- = 88.0-90.9)

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## Imaging IT Solutions

13-year contract with NSW Health - Australia's largest public health system.

Order value approx. SEK 560 million.



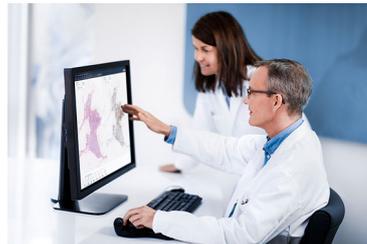
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## Imaging IT Solutions

Pathology market starting to gain momentum. Orders from:

- » The Region of Southern Denmark
- » Radboud University Medical Center in the Netherlands
- » Region Skåne in Sweden, by extending functionality of the customer's existing enterprise imaging solution



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## Imaging IT Solutions

Breakthrough in the new markets for direct sales. Orders from:

- » Canadian hospital  
Trillium Health Partners
- » French hospital  
Centre d'Imagerie Médicale de  
l'Hôpital Privé d'Antony



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Going forward

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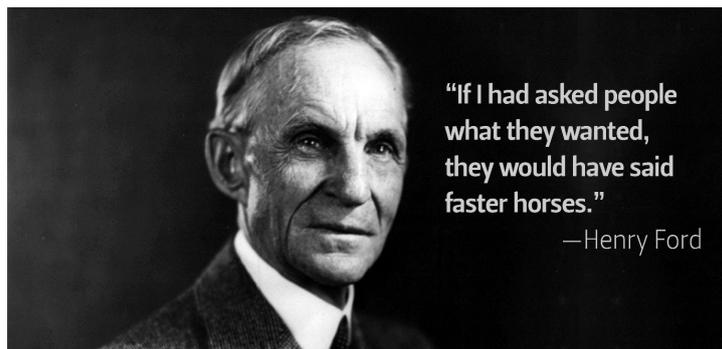
When Wayne Gretzky was asked how he could be so good:



*"I do not skate to where the puck is  
... I skate to where the puck is going to be!"*

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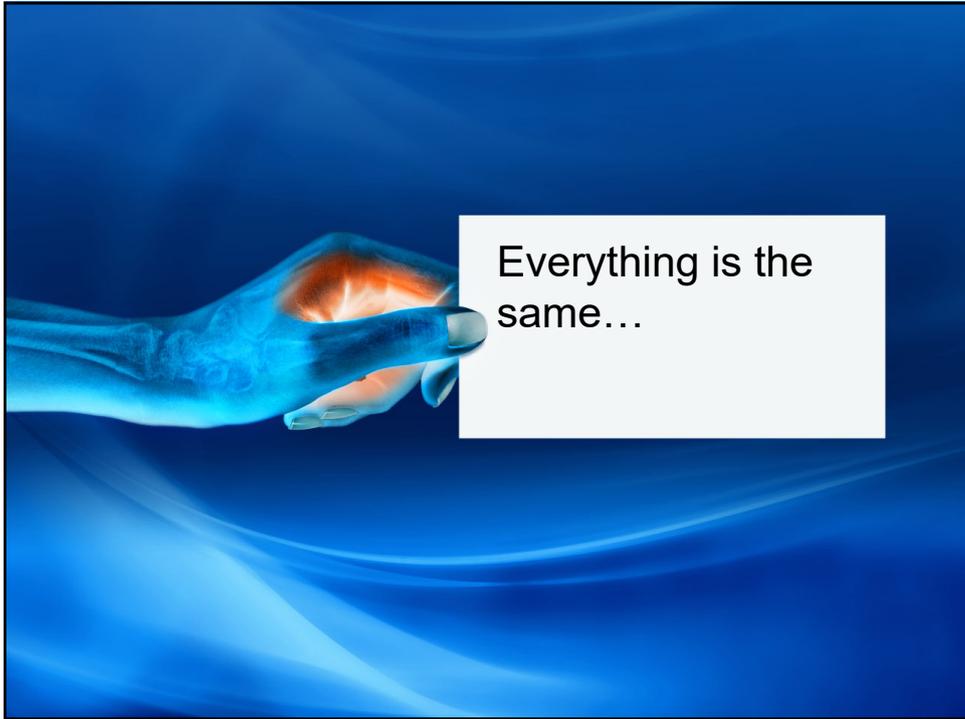


"If I had asked people what they wanted, they would have said faster horses."

—Henry Ford

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Happy Customers

Quality is profitable!

The image displays six KLAS award medals arranged horizontally. Each medal is circular with a laurel wreath border. The text on the medals is as follows:

- 2013: BEST IN KLAS 2013, PACS
- 2014: BEST IN KLAS 2014, PACS & GLOBAL (NON-US) PACS
- 2015/2016: BEST IN KLAS 2015/2016, PACS & GLOBAL (NON-US) PACS
- 2017: BEST IN KLAS SOFTWARE & SERVICES 2017, PACS & GLOBAL (NON-US) PACS
- 2018: BEST IN KLAS SOFTWARE & SERVICES 2018, PACS & GLOBAL (NON-US) PACS
- 2019: BEST IN KLAS PACS (LARGE HOSPITAL/ONE) 2019, PACS

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## Quantum computers



- Will turn the security world upside down
- All of Internet security and certificate-security at risk
- Nobody knows if, or when, they will be for real
- Perhaps they already exist?

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## Medical knowledge

It is estimated that the doubling time of medical knowledge 1950 was about 50 years, in 1980 it was 7 years and in 2010 it was 3,5 years.

In 2020 it is projected to be 60 days...

(Source Prof Sam Gambhir, Chief of diagnostics, Stanford.)

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The main problem in clinical medicine today is not that research is slow.

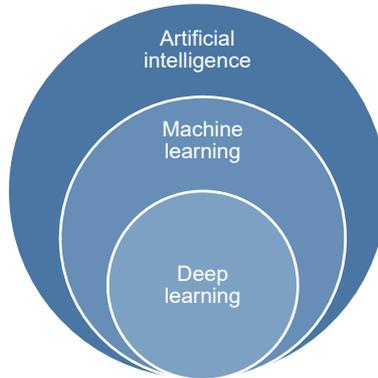
It is that it takes 20 years for new knowledge to reach all patients.

Anders Lönnberg  
ex Advisor to the Swedish  
government in health sciences

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## Artificial Intelligence

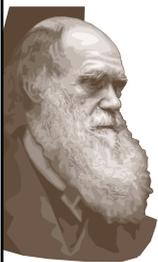


has become easy

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## What he really said....

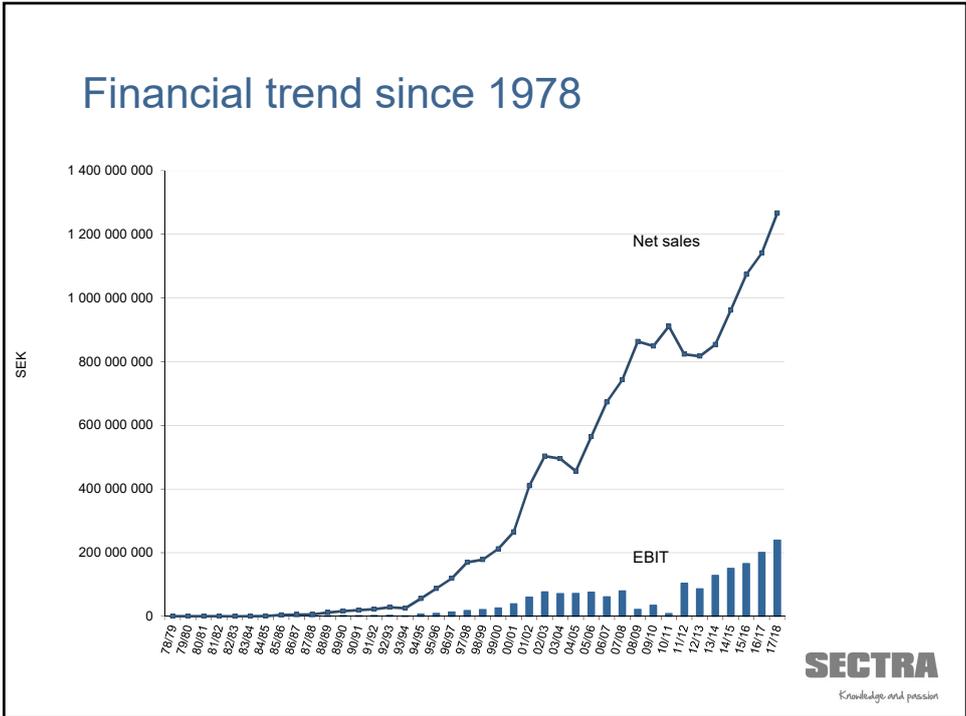


*"It is not the strongest of a species that thrives and proliferates...  
- It is the most adaptable"*

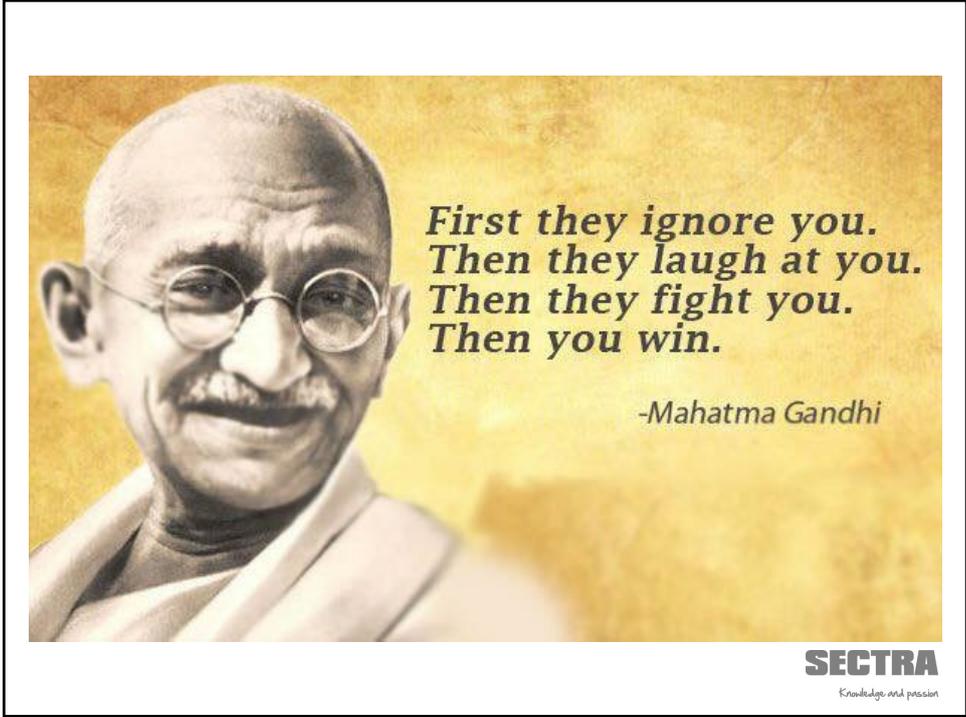
Charles Darwin

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but...!

*"Success is a bad teacher. It fools smart people to think that they cannot lose..."*

Bill Gates

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