

# INTELLIGENT RPA ROBOTIC PROCESS AUTOMATION IN HEALTH AND SOCIAL CARE

Tiina Leivo

Head of Healthcare MD, PhD

# Digitalization allocates time to meaningful work



# Digital workforce is the leading rpa- provider in health and social care in Nordics

1

**OVER 150 AUTOMATED  
PROCESSES  
FOR THE LEADING CUSTOMERS  
IN THE NORDICS**

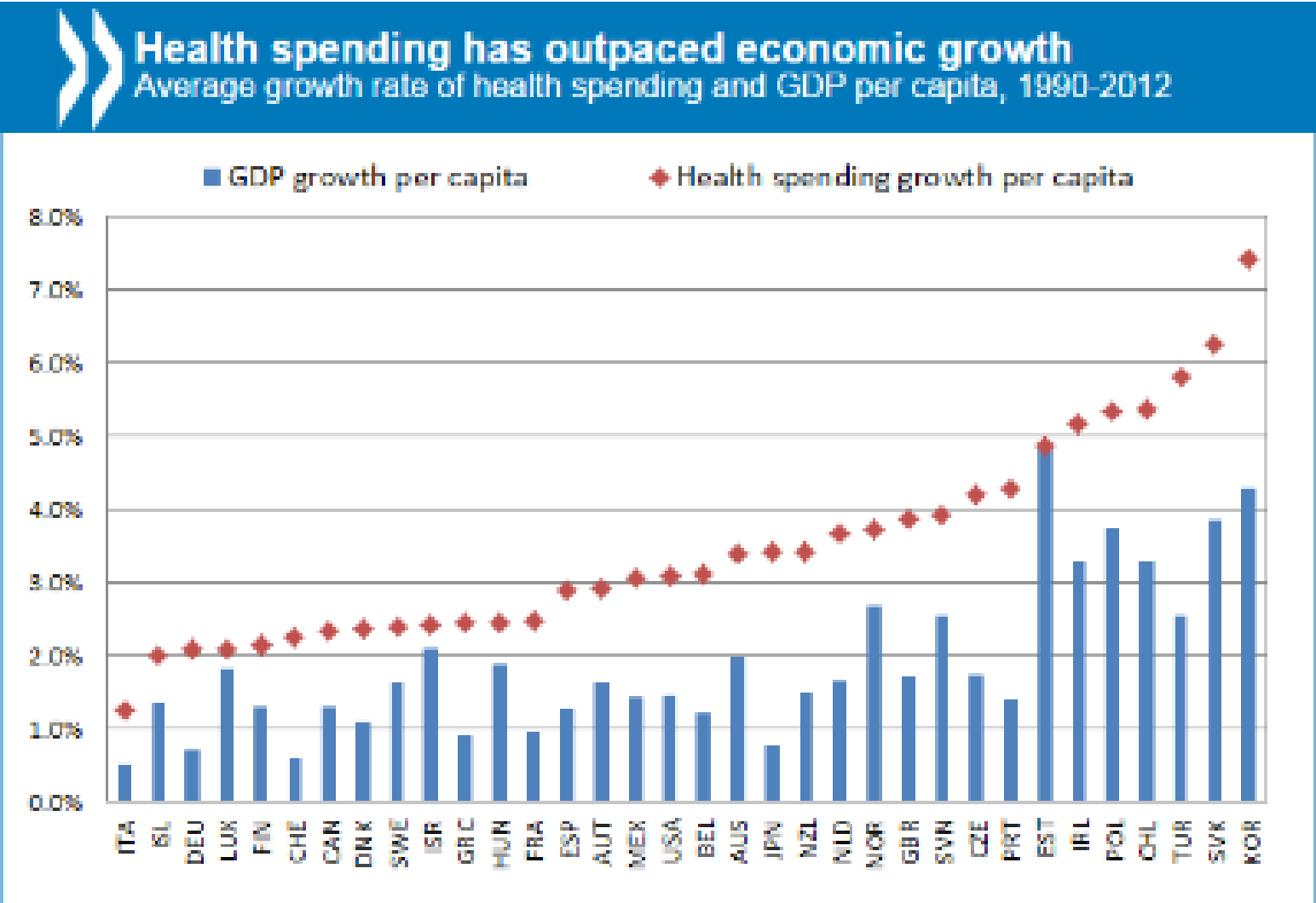
2

**DEDICATED TEAM**

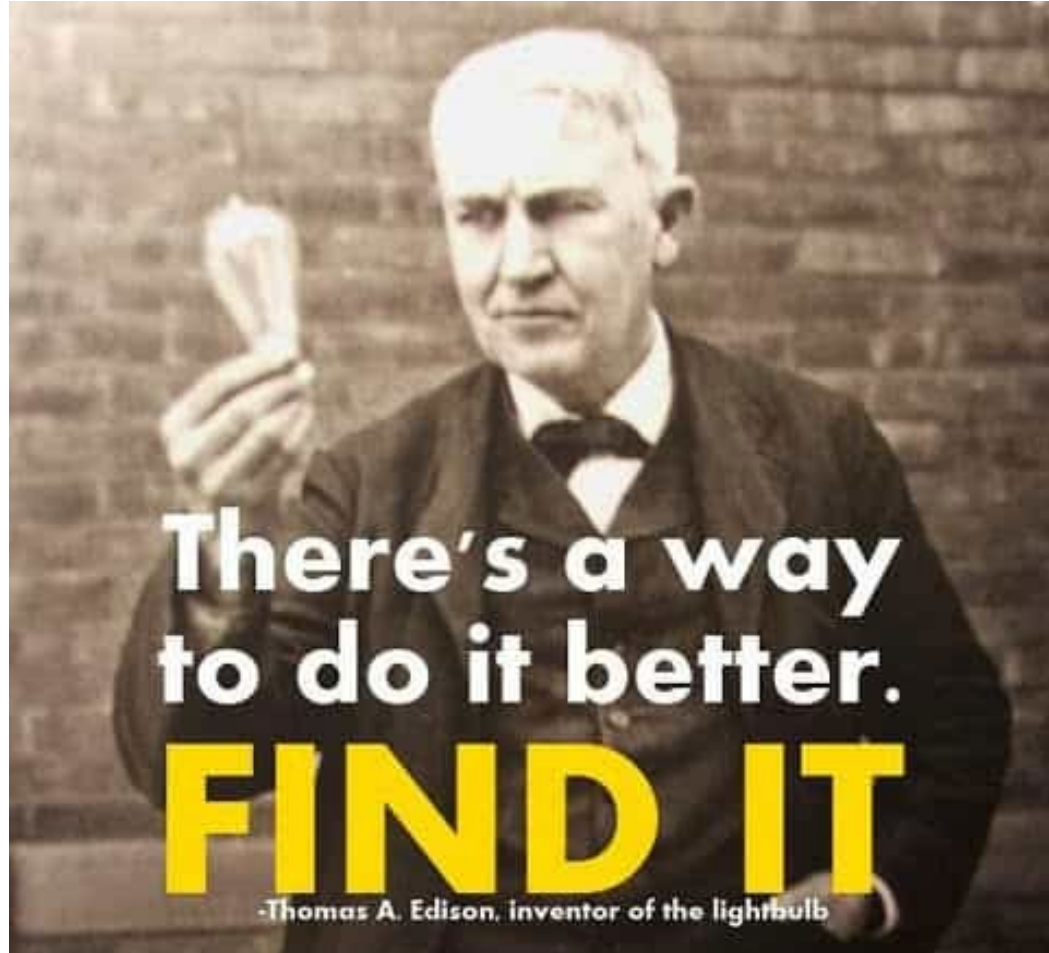
3

**CE-CERTIFIED FOR CLINICAL  
AUTOMATIONS**

# Maintaining high- quality health care requires digitalization



Reference OECD



There's a way  
to do it better.

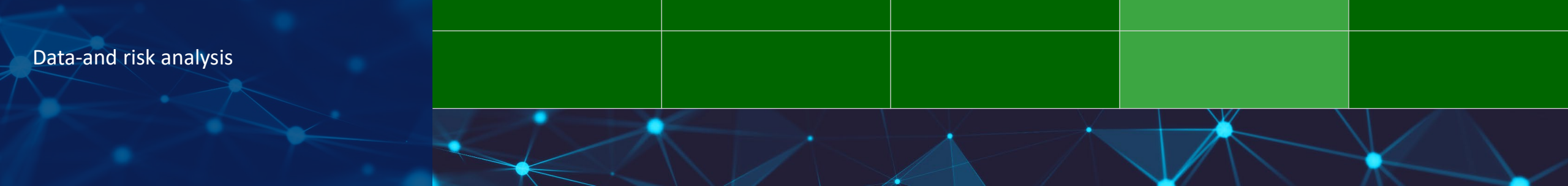
**FIND IT**

-Thomas A. Edison, inventor of the lightbulb

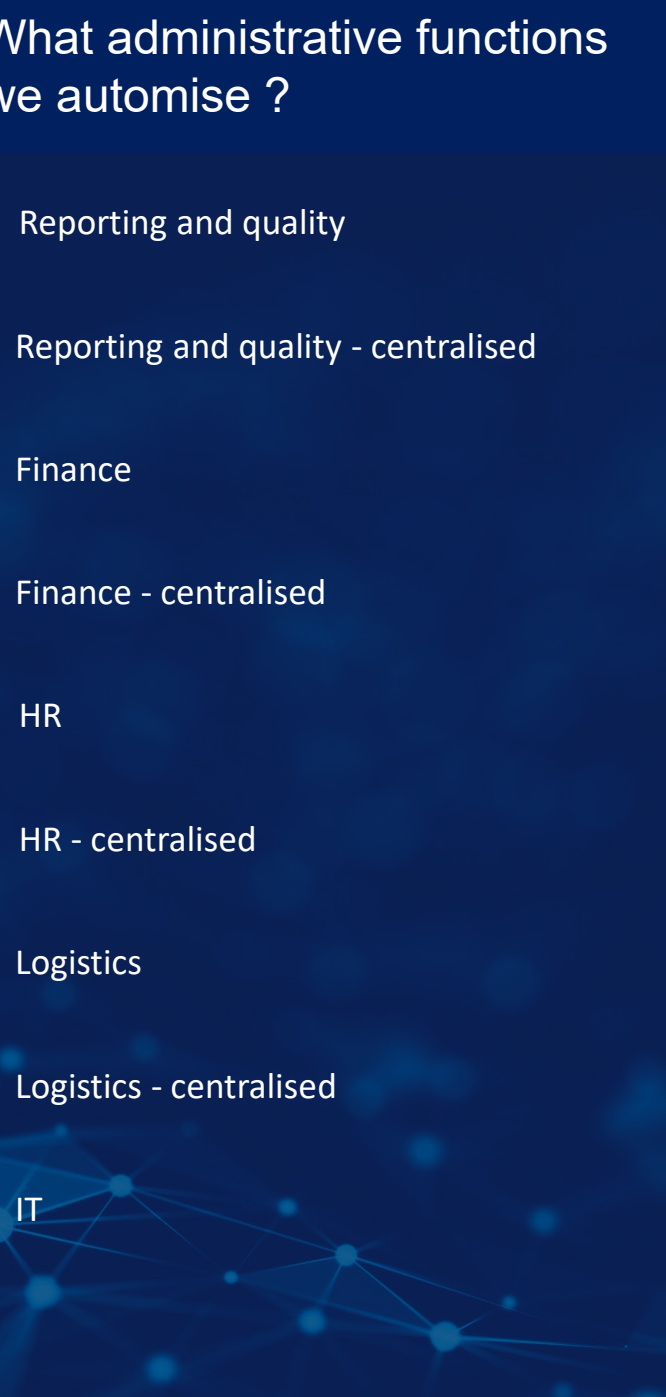
# CLINICAL AND ADMINISTRATIVE RPA USE CASES IN HEALTH CARE

# What functions we automise in service units?

	SPECIALISED CARE	PRIMARY CARE	PRIVATE SECTOR OCCUPATIONAL HEALTH CARE	PRIVATE SECTOR OUT & INPATIENT & DIAGNOSTICS SERVICES	SOCIAL CARE SERVICES
Referral	Dark Green	Light Green	Light Green	Light Green	Light Green
Bookings	Dark Green	Light Green	Dark Green	Light Green	Light Green
Symptom and patient history data	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green
Request forms	Dark Green	Dark Green	Dark Green	Light Green	Dark Blue
Test results - laboratory – radiology - pathology	Dark Green	Dark Green	Dark Green	Light Green	Dark Blue
Follow up processes, care paths	Dark Green	Dark Green	Dark Green	Light Green	Dark Blue
End of care processes	Dark Green	Dark Green	Light Green	Light Green	Dark Green
Administrative “checkings”	Dark Green	Dark Green	Dark Green	Light Green	Dark Green
Data-and risk analysis	Dark Green	Dark Green	Dark Green	Light Green	Dark Green



# What administrative functions we automise ?



	SPECIALISED CARE	PRIMARY CARE	PRIVATE SECTOR OCCUPATIONAL HEALTH CARE	PRIVATE SECTOR OUT & INPATIENT DIAGNOSTICS SERVICES	SOCIAL CARE SERVICES
Reporting and quality	Dark Green	Dark Green	Dark Green	Light Green	Dark Green
Reporting and quality - centralised	Light Green	Light Green	Dark Green	Light Green	Light Green
Finance	Dark Green	Light Green	Dark Green	Dark Green	Dark Green
Finance - centralised	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green
HR	Dark Green	Dark Green	Light Green	Light Green	Light Green
HR - centralised	Light Green	Light Green	Light Green	Light Green	Light Green
Logistics	Light Green	Light Green	Light Green	Light Green	Light Green
Logistics - centralised	Dark Green	Light Green	Light Green	Dark Green	Light Green
IT	Light Green	Light Green	Light Green	Light Green	Light Green



ROBOTIC PROCESS AUTOMATION

# BUILDING RPA AT HELSINKI UNIVERSITY HOSPITAL

5.12.2018 Minna Pekkala, Product manager,  
HUS IT Management



# HUS – HELSINKI UNIVERSITY HOSPITAL

## RPA PROGRAM

Organisation	Technical solution	Resources	Results and aims
<ul style="list-style-type: none"><li>• HUS</li><li>• 24 000 employees</li><li>• 23 hospitals</li><li>• Specialised health care for a population base of 1.6 m</li></ul>	<ul style="list-style-type: none"><li>• Blue Prism</li><li>• Azure</li><li>• RaaS/SaaS</li><li>• Minute- based price</li></ul>	<ul style="list-style-type: none"><li>• Digital Workforce<ul style="list-style-type: none"><li>• “All- inclusive” service</li><li>• 6 FTE developers</li><li>• 2 FTE analyst, business consultant, architect</li><li>• RaaS/SaaS</li></ul></li><li>• HUS<ul style="list-style-type: none"><li>• 1 FTE Rpa-lead</li></ul></li></ul>	<ul style="list-style-type: none"><li>• 4/2018 start</li><li>• 4/2019<ul style="list-style-type: none"><li>• 8 in production</li><li>• 6 in development</li><li>• 13 in definition</li><li>• &gt; 100 in pipeline</li><li>• 2 AI solutions</li></ul></li><li>• 12/2019<ul style="list-style-type: none"><li>• 50-100 in production</li></ul></li></ul>

# HUS – Helsinki University Hospital – Clinical and Administrative rpa use cases

## Clinical

- Referral handling
- Radiology request forms creating
- Allocating patients to patient beds in day hospital
- Laboratory results handling

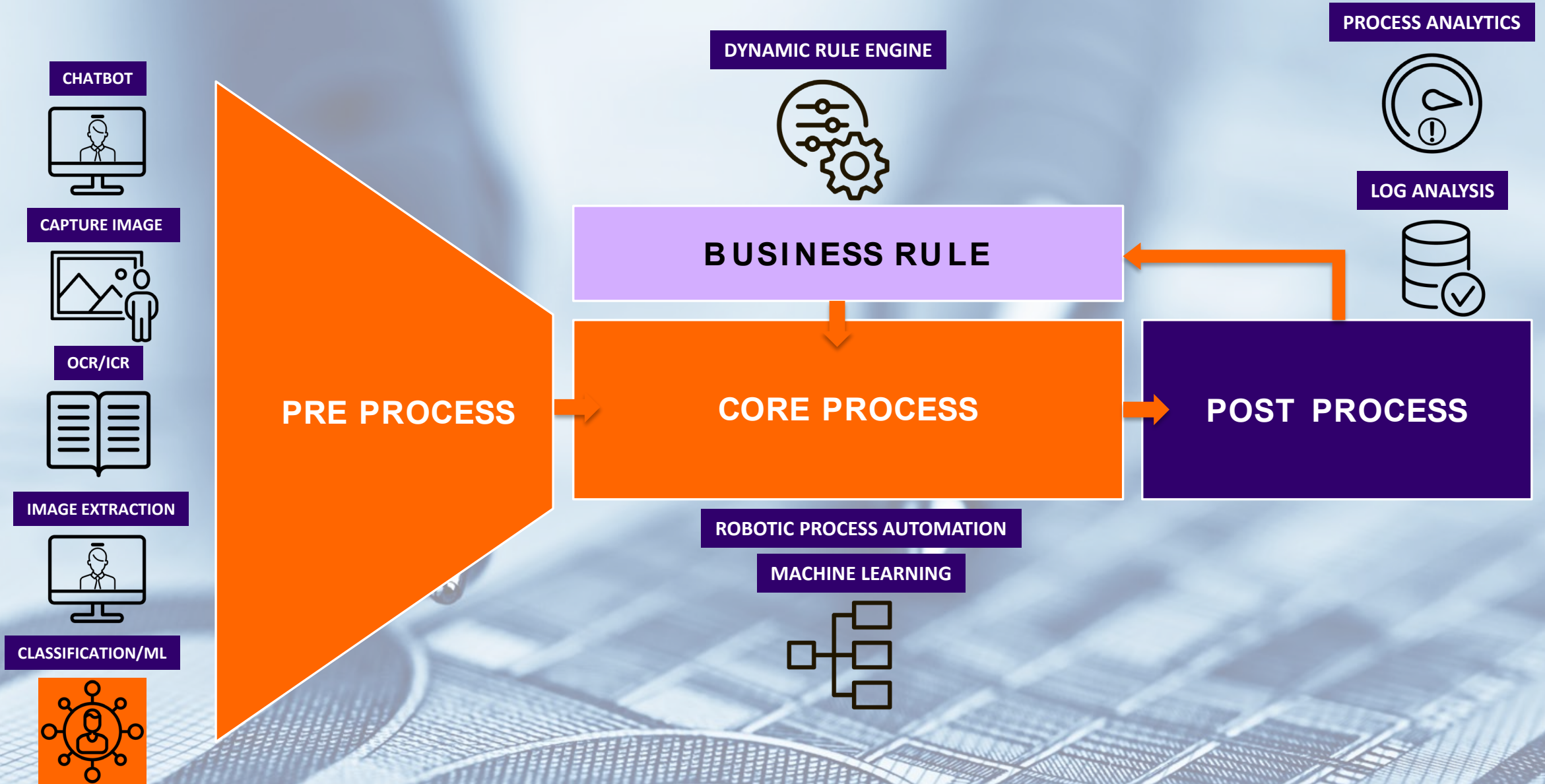
## Administrative

- Medical certificate transferring to HR-register
- Login credentials renewals for substitute employees
- Post-delivery notifications creating
- Archiving outsourced services feedback notes

# HUS – Clinical Use Case - Referral handling

Industry and company	Use case	Automation	Benefit
<ul style="list-style-type: none"><li>• Specialised health care</li><li>• Large public health care organisation</li><li>• HUS</li></ul>	<ul style="list-style-type: none"><li>• Automates the manual handling of referrals sent from primary care to specialized care</li><li>• Transfers the referral to the right hospital and clinic</li><li>• Number of cases 320 000/ year</li><li>• Scalable to over 40 units</li><li>• Over 95 % automation rate</li></ul>	<ul style="list-style-type: none"><li>• Blue Prism</li><li>• Azure</li><li>• RaaS</li></ul>	<ul style="list-style-type: none"><li>• 8 -10 fte</li><li>• More time to value adding work</li><li>• Better patient satisfaction</li><li>• Better employee satisfaction</li></ul>

# NLP ENABLING THE TRANSFER OF THE REFERRAL TO THE RIGHT SUBUNIT AND THE RIGHT DOCTOR



**CLASSIFICATION OF LAB RESULTS,  
MAKING EMR NOTES AND SENDING  
INFORMATION ABOUT NORMAL  
RESULTS  
DIRECTLY TO THE PATIENT**

**MS – CONTROL TESTS  
THROAT AND URINE CULTURES  
SEXUALLY TRANSMITTED DISEASE  
TESTS**



# Clinical use case – Classification of STD lab results, making EMR notes and sending information about the normal results

Industry and company	Use case	Automation	Benefit
<ul style="list-style-type: none"><li>• Primary health care</li><li>• City of 220 000 inhabitants</li></ul>	<ul style="list-style-type: none"><li>• Classifies the sexual transmitted disease labs to normal and abnormal</li><li>• Normal 95 % of the cases</li><li>• 18 000 STD labs /year</li></ul>	<ul style="list-style-type: none"><li>• Blue Prism</li><li>• Cygate – cloud</li><li>• Raas</li></ul>	<ul style="list-style-type: none"><li>• 3 fte</li><li>• More time to value adding work</li><li>• Better patient satisfaction</li><li>• Better patient safety</li></ul>

# **INSURANCE BILLING CHECKING**

and returning the bill when needed to  
the unit for rehandling





# Administrative use case – Insurance billing checking

Industry and company	Use case	Automation	Benefit
<ul style="list-style-type: none"><li>• Large Nordic private health care company</li></ul>	<ul style="list-style-type: none"><li>• Automates the manual checking of the insurance bills</li><li>• If missing data, fills in or returns to the unit for rehandling</li><li>• Number of cases 1,8 million /year</li><li>• 80 % automation rate</li><li>• 15 % to manual handling due to rule-based criteria</li><li>• 5 % to manual handling due to exceptions</li></ul>	<ul style="list-style-type: none"><li>• Blue Prism</li><li>• Capacity of 2 robots</li><li>• Cygate – cloud</li><li>• Raas</li></ul>	<ul style="list-style-type: none"><li>• 10-20 fte</li><li>• Better process quality</li><li>• Cost- benefit has exceeded the customer's expectation by 800 %</li></ul>

# RPA USE CASES IN SOCIAL CARE

# Social care use cases

- Substitute employee estimating and ordering
- Rota planning
- Service voucher creating
- Social care financial application handling
- Services management when patient is transferred to home or to hospital

# **SUBSTITUTE EMPLOYEE NEED ESTIMATING AND ORDERING FOR HOMECARE SERVICES**

Espoo City



# Social care use case – Substitute employee need estimating and ordering for home care services

Industry and company	Use case	Automation	Benefit
<ul style="list-style-type: none"><li>• Espoo City</li><li>• 272 000 inhabitants</li></ul>	<ul style="list-style-type: none"><li>• Estimates the substitute employee need and orders the employees</li><li>• In home care provided by the city</li></ul>	<ul style="list-style-type: none"><li>• Blue Prism</li><li>• Cygate – cloud</li><li>• Raas</li></ul>	<ul style="list-style-type: none"><li>• 3 fte in city homecare</li><li>• More time for value adding work</li><li>• Better employee satisfaction</li><li>• Further scalable rpa components to e.g. elderly care and health care units</li></ul>

# More time to meaningful work



Thank you!