

Session 3: Method: the role of enablers of Digital and Green Transition / Life Science & Health

- **Petter Hartman**, CEO, Medicon Village Innovation
- From policy to practice: **Kajsa Paulsson**, Professor of Medical Genetics & Division of Clinical Genetics, Lund University, presents project HARLIC (increasing life science research and innovation infrastructure synergies in Northern Europe)

Moderation: **Ida Åstrand**, Region Skåne





A BRIEF INTRODUCTION TO

LIFE SCIENCE IN SKÅNE

PETTER HARTMAN, CEO
MEDICON VILLAGE INNOVATION

SWEDISH LIFE SCIENCE IS GROWING



60,000

Employees in the life science sector

3,000

Life science companies

2nd

Medical & pharmaceutical products is the 2nd largest export category

100 bn

Value of export in 2021 (SEK)

3%

Swedish life science GDP-value

A stylized map of the Nordic region (Denmark, Finland, Iceland, Norway, and Sweden) is shown in a light gray color against a darker gray background. The central part of the map, covering parts of Denmark and Sweden, is highlighted in a darker blue. Four large numbers are placed on the map: '1' over the UK/Ireland area, '2' over the Nordic region, '3' over the Baltic region, and '4' over the Eastern European region. Below the map, the text 'MEDICON VALLEY' and 'The leading life science cluster of the Nordics' is displayed.

1

cluster

2

countries

3

regions

4

million inhabitants

MEDICON VALLEY

The leading life science cluster of the Nordics



Area



21.000
km²

9 universities
and learning institutions
perform life science
research in Medicon
Valley



5 science
parks

in Medicon Valley
completely or
significantly focus on
the life sciences

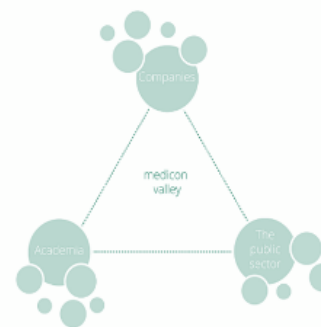
28
Total number of
hospitals in Medicon
Valley

Population
Medicon
Valley 4
Million



Source: Medicon Valley population - Orestat.se

65,000
Employees in the
private life science
sector in Medicon
Valley



Cluster advantages:

- Dynamic environment with many startups
- Good recruitment opportunities
- Specialized funding opportunities
- Specialized partners and suppliers
- Access to unique knowledge
- High level of innovation
- High productivity and growth

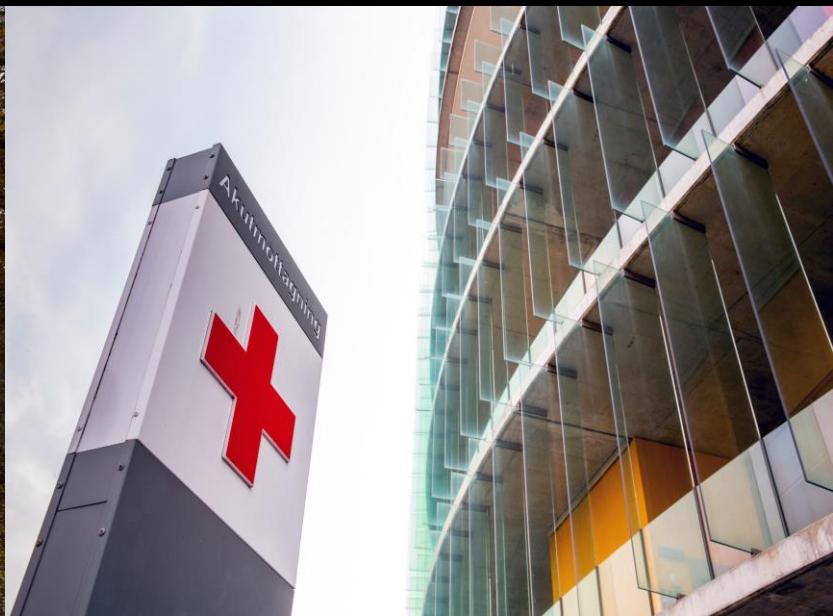
Source: Copenhagen Capacity and Invest in Skåne



BUILDING BLOCKS OF DEVELOPMENT



Photo: News Oresund - Johan Wessman



LIFE SCIENCE IN SKÅNE

Life science in Southern Sweden is growing. The science parks continue to expand, and the number of start-ups continue to increase

7500

employees in the private life science sector in Skåne

420

number of life science companies in Skåne

1500

new life science positions created in Skåne since 2015

100

newly established life science companies in Skåne since 2015



Källa: Öresundsinstitutet

MAIN PRIORITIES FOR LIFE SCIENCE IN SKÅNE

- 1 Better conditions for clinical research and access to testbeds
- 2 Better conditions for health promotion and disease prevention
- 3 Better conditions for talent attraction and talent retention
- 4 Better conditions for commercialization and increased internationalization





INVESTING FOR THE FUTURE

2.2 Billion EUR is invested in Medicon Valley's latest beacon, comprised of the material research facilities MAX IV and European Spallation Source

The European Spallation Source (ESS) is a multi-disciplinary research facility based on the world's most powerful neutron source

MAX IV Laboratory is a Swedish national laboratory providing scientists with the most brilliant X-rays for research. MAX IV was inaugurated 21 June 2016.

THANK YOU FOR LISTENING!

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An initiative of the European Union

CLUSTERS MEET REGIONS

MALMÖ

SWEDEN | 15-16
JUNE 2023

CLUSTERS AS BOOSTERS OF INNOVATION
IN INDUSTRIAL ECOSYSTEMS



#SingleMarket30

Hanseatic Life Science Research Infrastructure Consortium (HALRIC)

Kajsa M. Paulsson
Faculty of Medicine, Lund University



Öresund-Kattegat-Skagerrak



LUND UNIVERSITY

HALRIC

Project time: 2023-04-01 to 2026-03-31

Budget: 11,2 million €

Number of countries: 4

Number of partner organisations: 21 (+2)
(lead partner: Lund University)

HALRIC will increase the innovation capacity in life science through improved cross-border utilisation of unique research infrastructure.







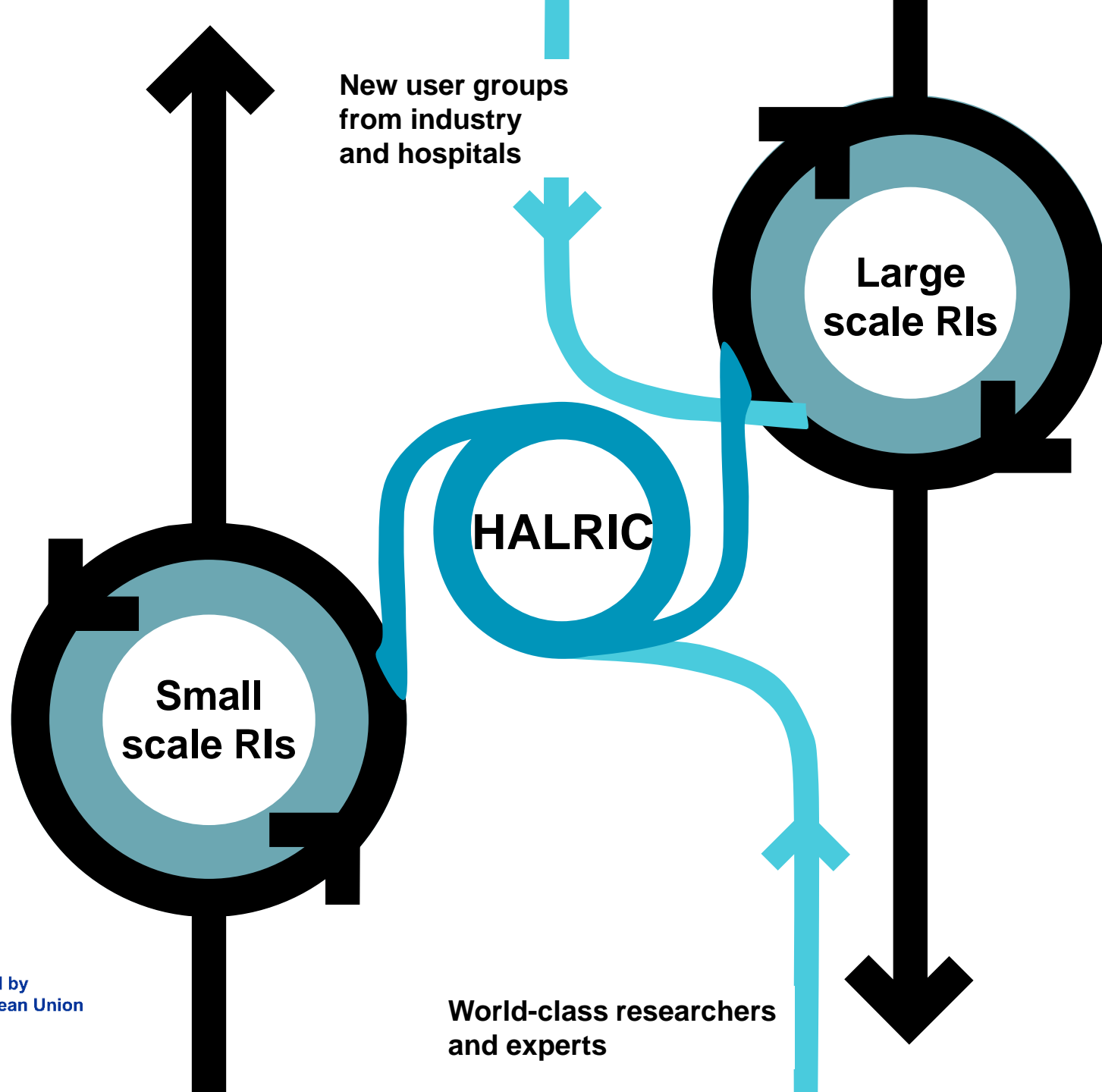
 Co-funded by the European Union

21 partner organisations open for collaboration with
 MedTech, BioTech and Pharma companies


 LUND UNIVERSITY

WP2 - Cross Border Innovation and Research

Increased utilisation of globally unique research infrastructures



Large scale research infrastructures



Petra III, DESY Synchrotron
Hamburg, Germany



European XFEL
Schenefeld, Germany



ASTRID2 Aarhus University
Aarhus, Denmark



MAX IV, Lund University
Lund, Sweden



ESS – European Spallation Source
Lund, Sweden



1. 4D Imaging Lab - 4D

Imaging Lab, Division of Solid Mechanics, Faculty of Engineering

- A. Zeiss Xradia 520 Versa
- B. EASYTOM, Rx solutions



2. **X-ray Phase Contrast Lab**, Medical Radiation Physics, Faculty of Science

3. **X-ray phase contrast microtomography system**, Synchrotron Radiation Research, Faculty of Science



- 1. Odin
- 2. YMIR – test beamline



- 1. NanoMAX, tomo-holography & ptycho-tomography
- 2. DanMAX, full-field nano and micro-tomography
- 3. ForMAX, microtomography



3D Imaging Center

- 1. ZEISS XRadia 410 Versa
- 2. Nikon XT H 225
- 3. Xradia nanoXCT-100

- 1. SkyScan 1172 Micro-CT
- 2. Plus more...



- 1. Zeiss Xradia CrystalCT
- 2. Zeiss Xradia 520 Versa

P21.2 Swedish Materials Science Beamline (SMS) – micro-tomography

GE Nanotom, HZ Hereon



P05 - Imaging Beamline, HZH – micro and nanotomography

P07 - High Energy Materials Science – microtomography

P06 - Hard X-ray Micro/Nano-Probe, e.g. ptycho-tomography

P10 Coherence Applications Beamline/GINIX - Coherent diffractive imaging (CDI, BraggCDI, Holographic imaging)



X-ray & CT Inspection Systems **YXLON**



Institute of Clinical Dentistry,
University of Oslo
1. Multiscale X-ray nanotomograph SKYSCAN 2211
2. SKYSCAN 1172 microCT system

> 25 micro-to-nano tomography lab scanners and beamlines within the HALRIC region*



** Both for HALRIC partners/and non HALRIC partners*



HALRIC
Hanseatic Life Science Research Infrastructure Consortium



Lund University & MAX IV

- 1. COSMOS
- 2. MAX IV clusters



ESS DMSC cluster,
Copenhagen, Denmark



UNIVERSITY OF OSLO

University of Oslo

- 1. Sigma 2
- 2. TSD (Services for Sensitive Data) computing cluster Colossus

Center for Quantification of Imaging Data from MAX IV



SCIENCE HPC Center,
University of Copenhagen



Computing Cluster



"Development of user friendly tomography software"



Maxwell HPC cluster

Total: 654 hosts

Dedicated nodes for:



CSSB
Centre for Structural Systems Biology



Universität Hamburg
DER FORSCHUNG | DER LEHRE | DER BILDUNG



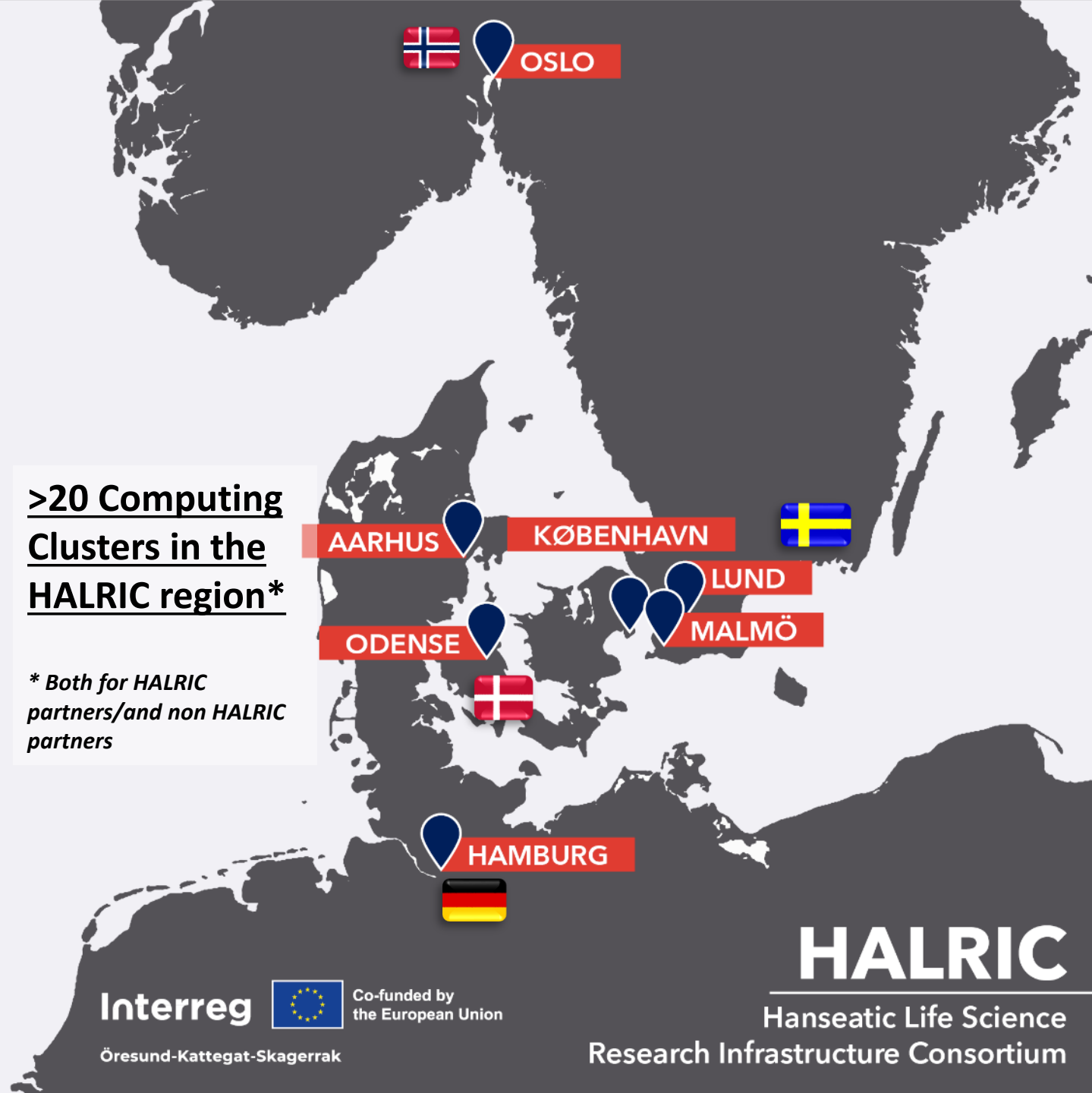
EMBL Hamburg computer cluster



hereon

>20 Computing Clusters in the HALRIC region*

* Both for HALRIC partners/and non HALRIC partners



Interreg



Co-funded by the European Union

Öresund-Kattegat-Skagerrak

HALRIC

Hanseatic Life Science
Research Infrastructure Consortium

WP3 - Hanseatic Science Cloud

A Hanseatic Science Cloud for immediate access to data wherever it is produced

- A prototype cloud solution for management and handling of large data sets

WP4 - Strengthening the regional life science ecosystem

Strengthening the life science ecosystem within and across the ÖKS-Hamburg regions

- A joint understanding and visibility of capacities.
- A joint dialogue of strategic and practical nature between all types of life science organizations.

Thank you!



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<https://halric.eu>



Öresund-Kattegat-Skagerrak



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COFFEE BREAK

