

1st Nordic Conference on Zero Emissions and Plus Energy Buildings

*Activity Based Working Environment
- Towards Sustainable Space Use*

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Aalto-yliopisto
Aalto-universitetet
Aalto University





**Aalto University is
a multidisciplinary
community of bold
thinkers where
science and art
meet technology
and business.**

A diverse community

In 2018, our students graduated with:

263 doctoral degrees,

1628 master's degrees,

1218 bachelor's degrees,

290 graduates from the MBA and EMBA programmes



12 000

full-time equivalent degree students

A staff of about 4 000, of which nearly 400 are professors. Share of international academic faculty is nearly 40%.

Developing campus



2018

School of Arts, Design and Architecture, shopping centre A Bloc, startup community A Grid open

2019

School of Business opens, building in Töölö and the old shopping centre renovations begin

2020

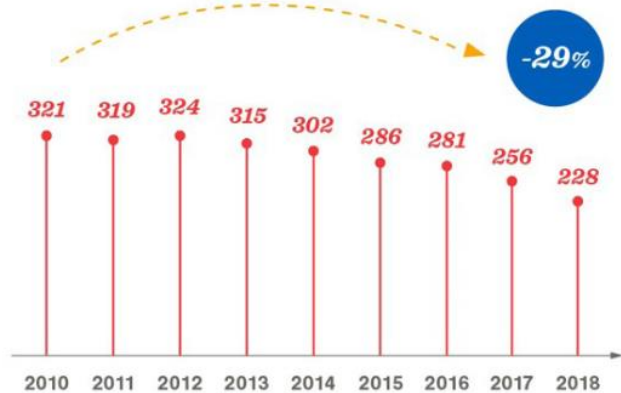
New student housing and office buildings, improvement of green areas on campus begins

**2021
—23**

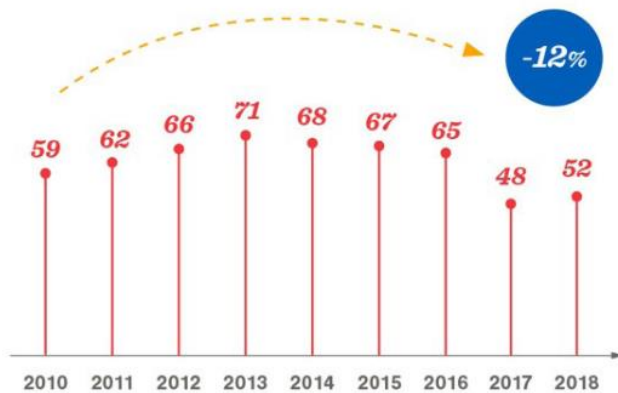
Aalto Works & Otakaari 2 opens, building of Student Life Centre

**2024
—35**

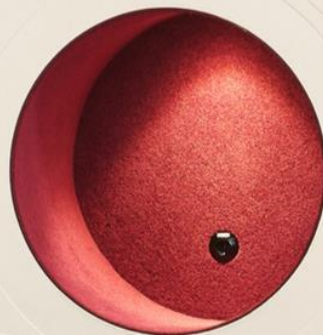
Development of Marine Tech block, Kivimies block and Maarinranta area, new residential buildings



Facility usage (1 000 sqm)



Facility costs (€ million)



How?

- **Implementing strategy**
- **Developing new space guidelines**
- **Introducing Activity Based Office concept**
- **Analyzing occupancy rates**
- **Having cost control in facilities**
- **Using digital tools as space use accelerators**
- **Piloting School as Service concept -> now 3 schools on campus and one kindergarten**
- **Developing partnership co-working models -> up to 4 co-working campus membership locations**

Three Key Words

- 37% of excessive space
- Low occupancy
- Outdated spaces and structures
- New ways of working and learning
- Innovations + new ideas
- Crossing borders
- Partnerships
- Sustainability

Sharing

Diversity

Encounters

The *activity based office* comprises different types of spaces that support the many different patterns of knowledge work.

The *learning environments* will be developed to support digitalisation and new ways of learning.

Aalto University's *special spaces* - like laboratories, workshops, test halls and mega-infrastructures - will be mapped and made visible at a new public website.

Aalto Space is a mobile application for Android and iOS devices.

It helps navigating around Aalto University's campus and allows application users to book facilities for studying and work.

*Aalto Space is part of
Aalto ITS Project Portfolio*



**over 15,000 downloads
over 5,000 active users**



*Available study space
is just a click away*

Case: Relocation for department x

Office before (2017)

- 1290 sqm
- 41 FTE
- 31 sqm/FTE
- 38 workstations
- 1,1 FTE/workstation
- 77,10 kWh/m² (electricity)
- 2 425,76 kWh/FTE (electricity)
- Total: 99 456 kWh

Office after (2018)

- 442 sqm
- 48 FTE
- 9,2 sqm/FTE
- 33 workstations
- 1,5 FTE/workstation
- 76,82 kWh/m² (electricity)
- 707,38 kWh/FTE (electricity)
- Total: 33 954 kWh

Feedback

- **Leesman Survey: Lmi Index, analysis and action points**
- **Post Occupancy Evaluations (POE): analysis and action points**
- **Workplace Report by Occupational Healthcare: analysis and action points**

Case: Relocation department X

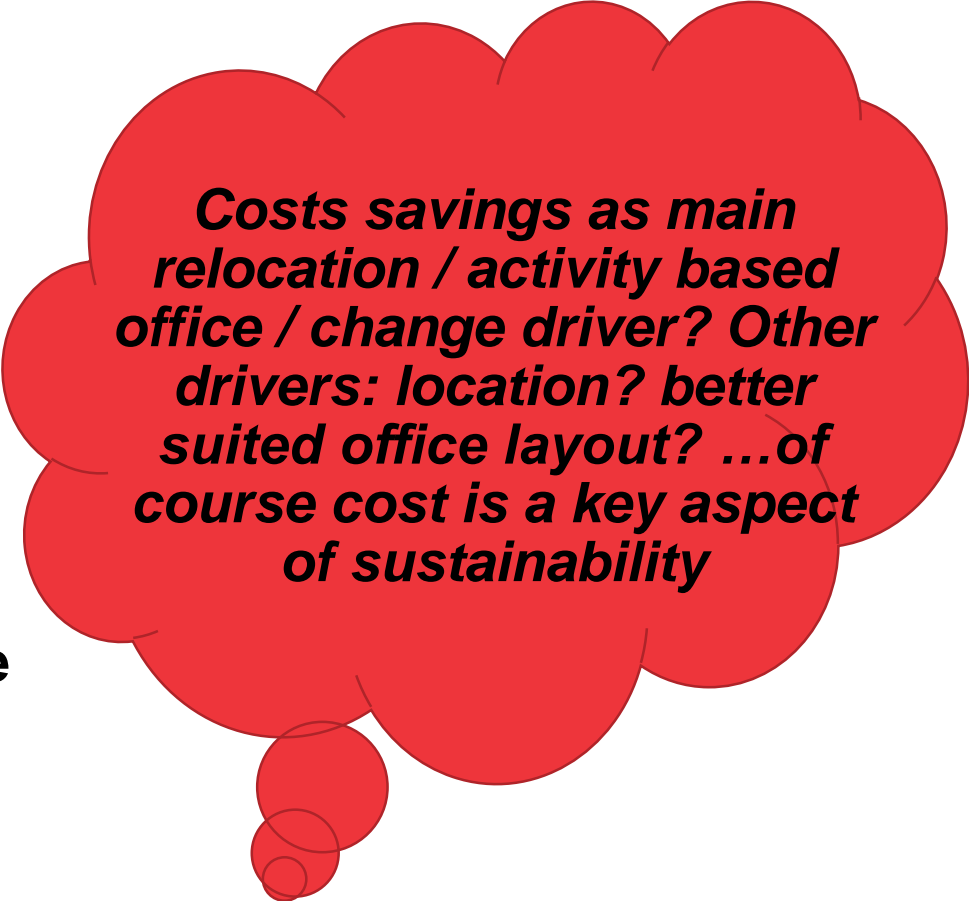
- **2017: Lmi 72,6 (20 responses), benchmark Lmi 62,6**
- **2018: Lmi 69,6 (14 responses), benchmark Lmi 62,6**

POE 2017 results example:

VASTAUSTEN KESKIARVOT	MOBIILIT	ANKKURIT
Yksikön ilmapiiri	78	79
Tiedonkulku	66	44
Esimiesten saavutettavuus	70	55
Kollegoiden saavutettavuus	67	42

Challenges

- **Scattered data in different data sources**
- **Unsystematic and inconsistent data e.g. changes in the use of the building, changes in organization...**
- **Response rates can indicate misrepresented feedback data**



Costs savings as main relocation / activity based office / change driver? Other drivers: location? better suited office layout? ...of course cost is a key aspect of sustainability

A photograph of a modern office space. In the foreground, a man with short blonde hair, wearing a dark blue long-sleeved shirt and dark trousers, is sitting in a black office chair at a white desk. He is looking at a laptop. The desk also has a large monitor, a keyboard, and a mouse. Behind him are several other desks, each with a computer monitor and a green cubicle partition. The office has large windows on the left side, providing a view of trees and a brick building outside. The ceiling features long, horizontal light fixtures and several pendant lights with a woven, conical design. The overall atmosphere is bright and professional.

**Still opportunities with
occupancy and space use?
(Snapshot at 9.57 am on
Friday November 1st 2019)**