



LUNDS
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Animal houses of the Faculty Vision 2027, action plan, risks and risk reduction

FINAL REPORT JUNE 17, 2024



Animal experiments are important but too expensive today

- Animal experiments are very important for our Faculty
- The cost for animal research today is too high which has led to negative effects not only for the animal research but also for the Departments and the Faculty in general
- This investigation provides a vision and an action plan when the cost for animal houses has been reduced by \approx a third in 2027

Animal research in the Faculty today

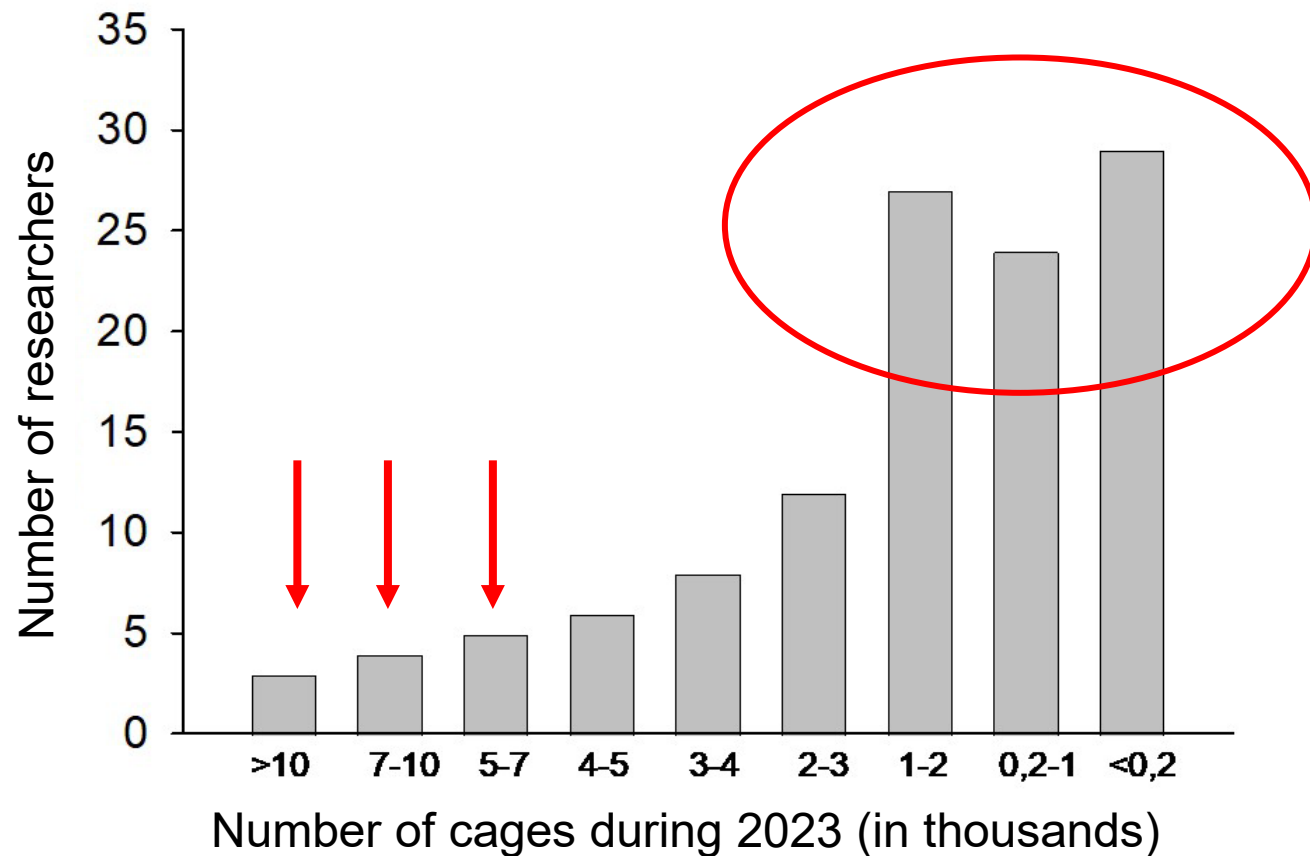
- **Animal species**

- Mice (>90%)
- Rats
- Pigs
- Sheep
- Rabbits
- Frogs
- Salamander
- Zebrafish
- Ferret

- **Animal houses**

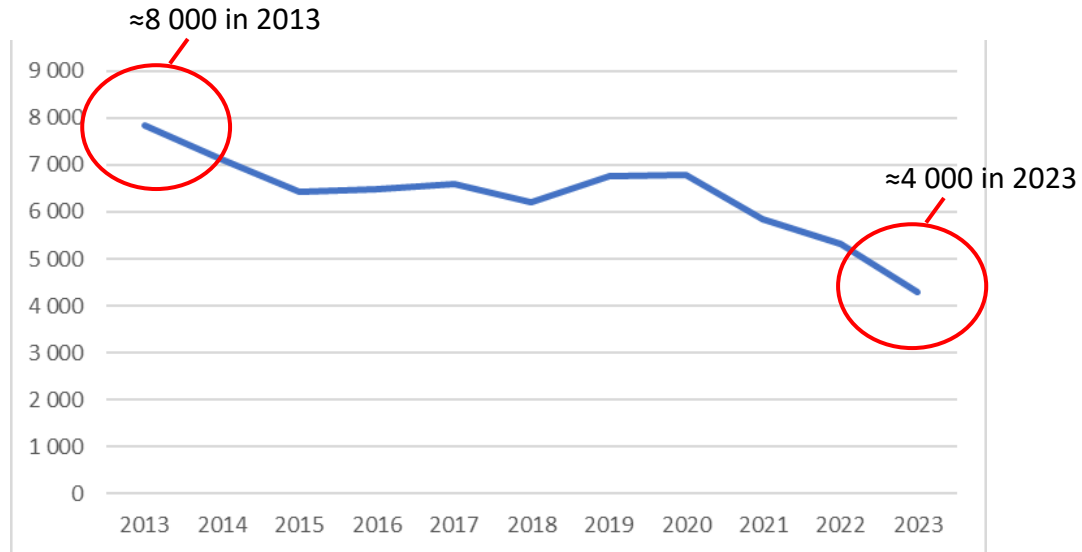
- Two big:
 - CMU (max capacity 9 000 cages; opened in 2022)
 - BMC (max capacity 9 500 cages; 98 researchers)
- Two smaller:
 - CRC (max capacity 2 500 cages; 17 researchers)
 - MV (max capacity 2 000 cages; 5 researchers)
- **The animal houses are organized in the Center for Comparative Medicine (CCM)**

118 researchers had animal research in 2023

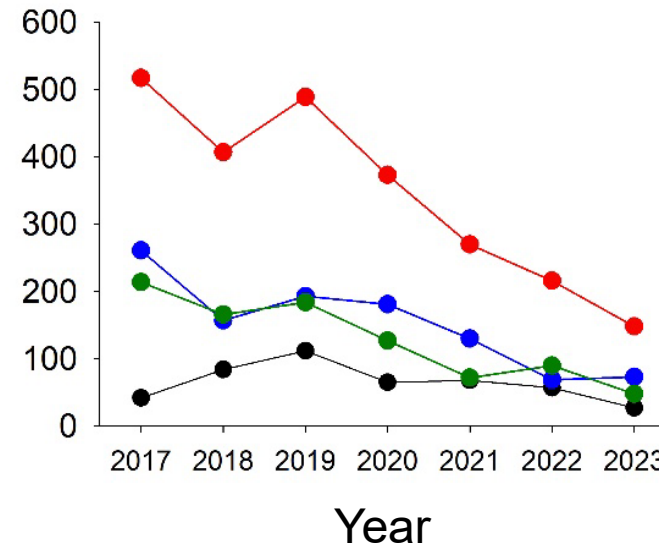


Animals in research have declined since 2013

Number of cages per week since 2013
(≈90% mice, ≈10% rats)



Number of large animals since 2017

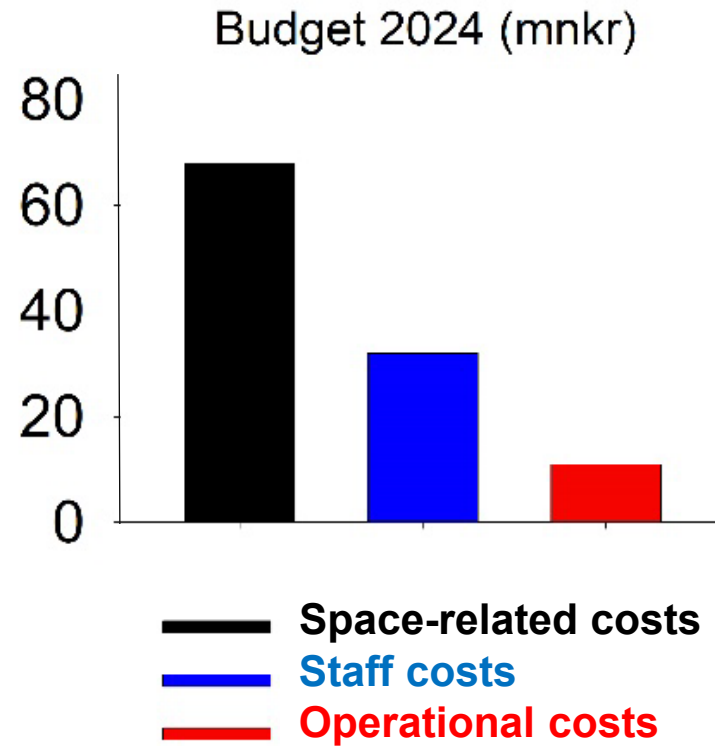


- Sheep
- Pigs
- Rabbits
- Total

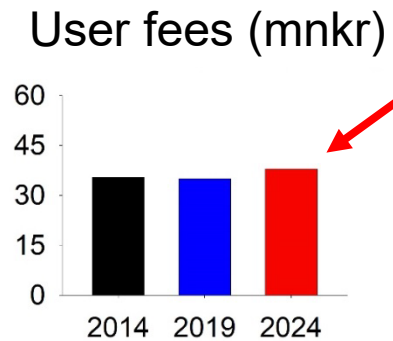
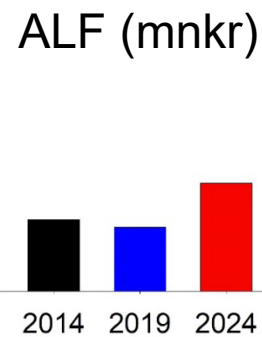
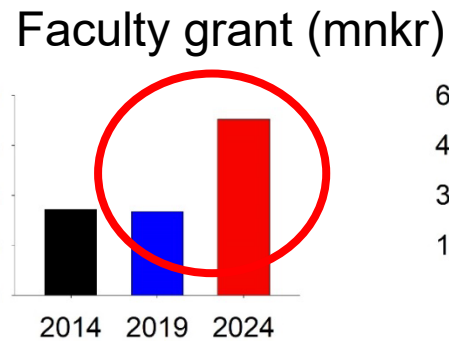
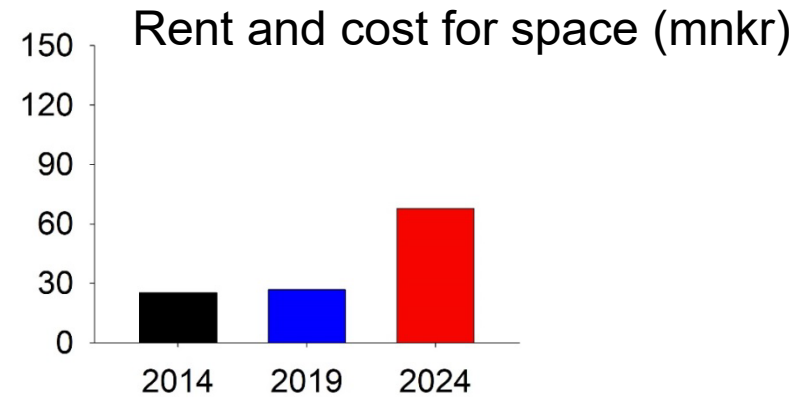
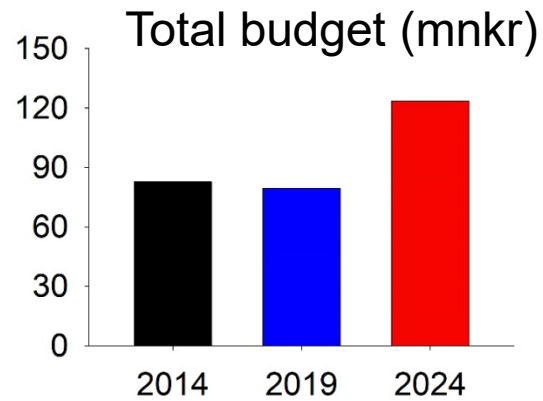
There is a large overcapacity in the four animal houses

	BMC	MV	CRC	CMU	Total
Cages in use week 8/2024	2 170	206	251	1 478	4 105
Max capacity	9 500	2 000	2 500	9 000	23 000
Utilization in relation to full capacity	23%	10%	10%	16%	18%
Capacity in all existing racks	7 285	665	1 092	6 407	15 449
Utilization in relation to existing racks	30%	31%	23%	23%	27%

Budget for CCM is 123,5 mnkr in 2024



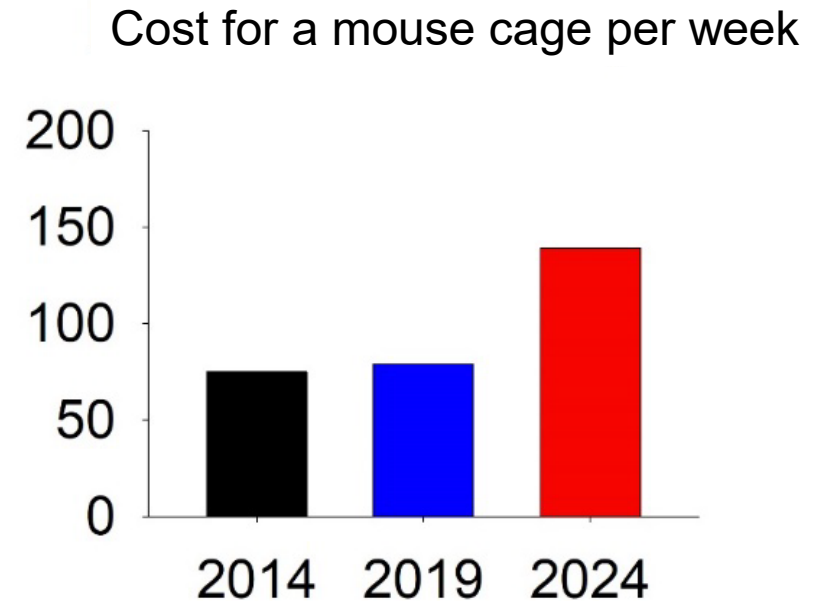
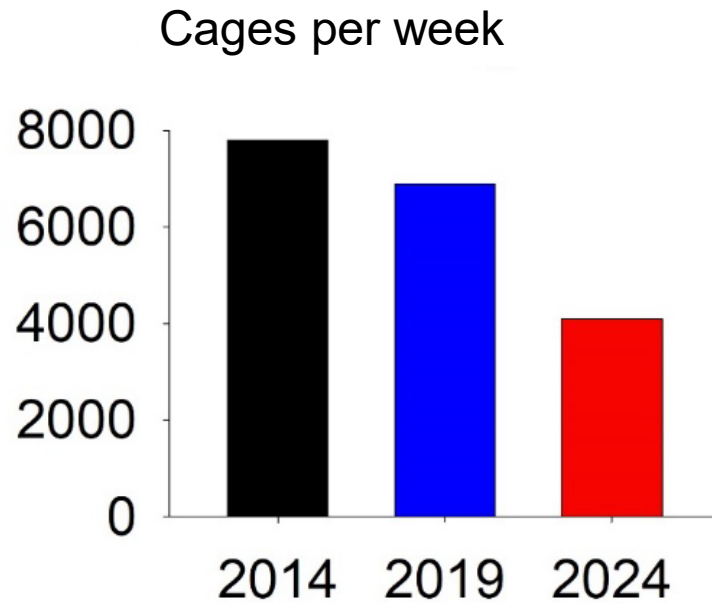
Budget for CCM 2014-2024



Reduced grants to Departments
Reduced grants to other infrastructures
Authority capital



User fees have increased by 100% since 2019



The challenge

- There is a huge overcapacity in the four animal houses
- At the same time the number of animals in use is declining
- The user fees are too high

- This has resulted in negative consequences for the Departments and all researchers and staff at the Faculty

- Something needs to be done!



An investigation was performed in 2022

- Reduced cost for staff and operational costs (16 mnkr)
- The barrier sections at CRC and BMC were closed

A second investigation was performed in 2023

- **Suggestions**

- Reduce costs by 18 mnkr
- Close CRC animal house (-9,7 mnkr)
- Close the transgenic activities (-3,7 mnkr)
- Increase user fee by 20%

- **Decisions by Faculty Board in December 2023**

- No structural changes
- Increased user fee by 34%

New investigation in 2024

- **Task: Present how the animal house organization could be in 2027 if the cost is reduced from 123 to 80 mnkr and an action plan to reach this goal**
- **Working group** (Bo Ahrén, Anna Blom, Lena Uller, Åsa Söderberg)
- **Reference group** (Sebastian Albinsson, Saema Ansar, Daniel Bexell, Harry Björkbacka, Magnus Gram, Susanne Iwarsson, Göran Jönsson, Sandra Lindstedt, Malin Parmar och Joan Yuan)
- **Resource persons** (Åsa Bergenudd, Caroline Bäck, Hugh Connell, Rebecca Sandgren)
- **Information** from management team CCM
- **Presentations and discussions** inside and outside the Faculty, including two general meetings
- **Final presentation June 17**

How to reduce the cost for the animal houses from 123,5 mnkr to 80 mnkr/year, i.e., by 43,5 mnkr/year, and to reach that in 2027?

- **Costs for the houses (rent etc).** ≈ 67 mnkr/year today

Djurhus	Space-related annual cost	Total annual cost
CMU	36 mnkr	49 mnkr
BMC	19 mnkr	41 mnkr
CRC	9,7 mnkr	13 mnkr
MV	2,1 mnkr	4,2 mnkr

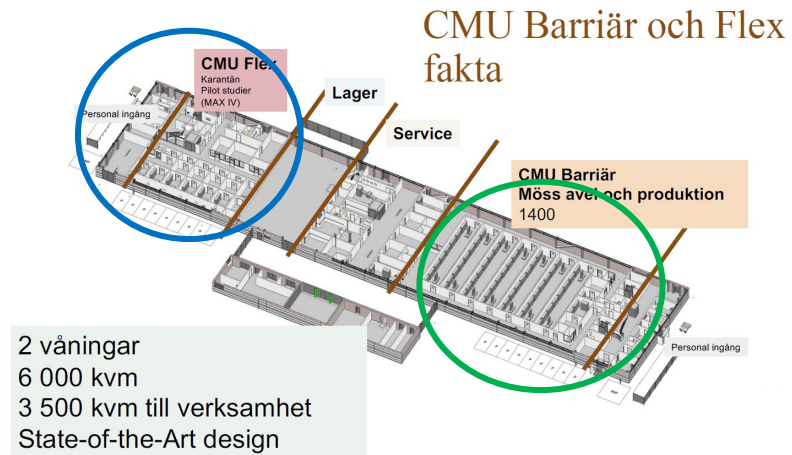
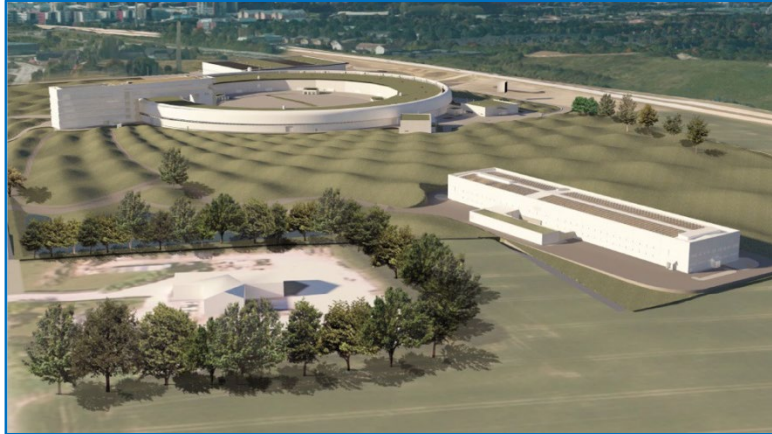
- **Costs for CCM staff.** ≈ 32 mnkr/year today
- **Operational costs.** ≈ 12 mnkr/year today
 - 40% disposable cages, 6-7% each for food, protection equipment, animals and machine maintenance
- **Other costs (depreciation expenses, overhead).** ≈ 12 mnkr/year today
- **Income.** Almost zero today
 - Alternative use of the facilities
 - External user fees

If we do nothing things will not stay as they are

- Persistent and increasing high cost for empty spaces
- Further increase in user fees
- Further increased funding to the animal houses by the Faculty grant
 - Less money for recruitment of new researchers and positions for young researchers
 - Reduced funding of salaries for researchers
 - Less money for co-funding of external grants
 - Less money for other infrastructures
 - Increased OH
- Increased demand for funding by ALF
- **If you want things to stay as they are, things will have to change**
(Giuseppe Tomasi di Lampedusa in relation to risorgimento, the unification of Italy)



CMU (Comparative Medicine Unit)



CMU was built because of expectations that animal research would increase much, to have a higher standard with low risk for infections, and to be in close contact with the development at MAX IV and Science Village

Two parts:

A barrier with breeding of mice; two different health zones, no access by researchers (today $\approx 1\,500$ cages)

A Flex unit with eight top notch laboratories for animal research of 1 000 square meters (not used today)

A possibility could be to close CMU: Move animals to BMC and reopen the barrier (5 mnkr/year) or outsourcing to Taconic, but that would still cost ≈ 35 mnkr/year since the contract with the owner is a 20-year contract ending in 2041; not possible to rent out ($\approx 8\,900$ SEK/sq m), to break the contract costs >400 mnkr

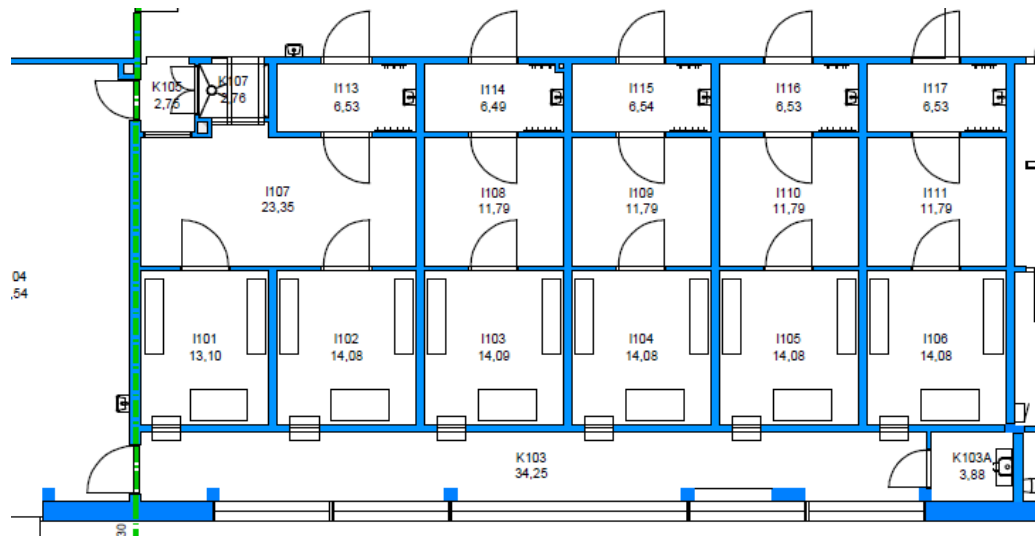
Therefore, the way forward will be to keep and use CMU

A vision for 2027

- Animal research is cost effective and an important part of the Faculty
- The budget for CCM is ≈90 mnkr
- User fees are lower than today
- CMU is used more
- Animal experiments are undertaken in laboratories at CMU, at CRC and at BMC
- CCM has staff with high competence that is dimensioned according to work load
- Staff at CCM assist researchers in animal research
- Close cooperation with the Faculty of Science
- Less Faculty grants and less ALF-money are required to cover costs for animal houses, OH is lower than today

Action Plan 1: More activity in CMU

All breeding cages and cages with animals on hold should be kept at CMU (another $\approx 1\ 000$ cages)
Lower user fee in CMU than in other animal houses
One health zone at CMU barrier is changed to a conventional breeding facility
Flex unit is used by researchers and external parties, office sheds built



$\approx 1\ 000$ sq meters of modern top notch labs with animal rooms divided in five + three units

- Researchers with interest of own animal house with laboratory and lower user fee; office sheds established
- Create advanced animal research platforms with equipment (translational medicine, inflammation, neuroscience, metabolism/cardiology); workshop
- Special laboratories for P2 and P3 moved from BMC
- Quarantine
- Industry with animal research aiming at close location to MAX IV and Science Village

Action plan 2: Reduced space at CRC

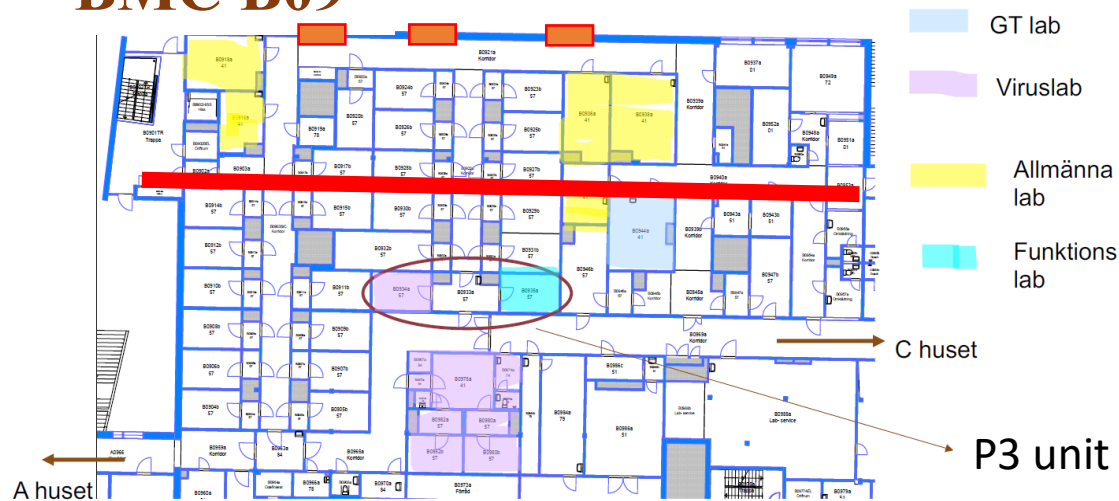
CRC animal house



A small animal house in CRC for mice
No investment in big autoclave (5-10 mnkr)
Consequence: rats moved to BMC

Action plan 3: Reduced space at BMC

BMC B09



BMC C09



Part of BMC B09 is rebuilt for other usage

P3 unit moved to CMU

Remaining BMC B09

Animal houses and laboratories
for experiments on mice and rats

P2 unit moved to CMU

Zebrafish room changed to laboratory

Action plan 4: Faculty leaves the animal house at MV

- Animals moved from MV animal house to BMC/CMU
- Laboratories with equipment and office spaces set up for MV researchers at BMC
- Staff from CCM to assist MV researchers at BMC
- Workshop arranged for detailed planning

Action plan 5: Cooperation with Faculty of Sciences

- Mice and rats moved from Biology House to BMC
- Bird facilities set up at BMC C10
- Zebrafish infrastructure set up at N-fak

Action plan 6: CCM

- Staff dimension in CCM is adapted to number of animals and animal houses (=diminished)
- Reduction in cooling off period (karenstid) to allow staff to move more easily between animal houses
- Staff to assist researchers more
- Administrative cooperation between CCM and other parts of the Faculty
- Reducing the time on call for veterinarians
- CCM leaves BMC D10: Transgene activities move to CMU/BMC
- CCM leaves BMC I12: CCM management team moves to other offices at BMC/CMU
- Prolongation of life time for disposable cages – 10 weeks for typ II cages
- Swedish water for the animals

Action plan 7: Lower user fees

- Lower user fees (from January 1st, 2025, provided that other cost savings are decided)
- User fees further 15% lower in CMU than in other animal houses
- Differentiated user fees with reduced fee when using large quantities
 - For mice: >5 000 cages/year
 - For rats: >1 000 cages/year
 - For large animals: >50 animals/year
- Basic fee of 10 000 SEK for all research groups using CCM
- Reduced user fee for external users

How much would these changes reduce the cost?

	Cost 2024	Cost 2027	Saving
CMU	35,8	26	10
BMC B09 and C09	19,0	15	4*
CRC	9,7	3.5	6*
BMC I12	0,6	0	0,6*
BMC D10	0,7	0	0,7*
MV	2,1	0	2,1
Staff	32,4	26	6
Operating costs	11,6	9.5	3
Other costs (depreciation,. OH)	11,6	8.5	3
External income	0	1	1
TOTAL	123,5	≈ 87.5	≈ 33.4

- Investment costs and moving costs will be added
- *Cost remains for the Faculty

**To save the whole potential for the Faculty, the space that is left by CCM needs to be filled
To do that it is important to solve the challenge of empty spaces**

Risks and risk reduction

- **Prolonged or delayed implementation plan**
 - Technical and practical challenges, resistance to change
 - Counteracted by a dedicated process leader, detailed implementation plan, involvement
- **Changed health status**
 - Conventional breeding facility at CMU, P2 and P3 at CMU flex, reduced coolong-off period, reduced time on call for veterinarians
 - Counteracted by detailed planning and logistical changes
- **Working environment**
 - Staff reduction, changed way of working
 - Counteracted by detailed planning, involvement, responsiveness, equip laboratories according to the need
- **Worries or fear of change** (depression, anger, threat to leave)
 - Counteracted by support from heads of departments and HR, and involvement in the planning
- **Next step decision not taken, so empty spaces will remain**
 - Counteracted by decisions to fill empty spaces

The next development

- **Appointment of a process leader**
- **Workshops for detailed planning**
 - Research aiming at CMU Flex
 - Researchers moving animal research to BMC for planning
- **Decisions related to CCM**
 - Reduction of staff
 - Move from BMC D10 and BMC I12
 - Prolonged life-time for disposable cages
- **Decisions related to animal houses**
 - Reduction in size of CRC animal house
 - Reduction in size BMC conventional
 - Faculty to leave MV animal house
 - Change of one part of CMU to a conventional breeding facility
- **Reduced user fees**
 - From January 1st provided that cost savings have been decided
- **Solutions to challenge of empty spaces**

In the end

- We have presented a comprehensive action plan to reduce the cost for animal research which will be cost saving for research groups using animal research and the whole faculty
- A detailed report has been written
- I thank the working group, the reference group, CCM leadership, the resource persons, the Faculty management team, heads of departments, the Faculty board, and all others who have contributed

Thank you