

Aalto University School of Arts, Design and Architecture Department of Architecture Building Design ARK-E2013 Building Design Studio (12 cr)

Fall 2021, September 14th–December 15th

## **Space List Summary**

	- 0	m² NUA	m² NUA	Ratio	/ -f OF A	m² GFA	m² GFA	Deteille
Code	Tag Space Group	(hym²)	(nym²) G	FA/NUA 9	% Of GFA	(brm²)	(brm²)	Details
	1 Labs	5 000	0	1,40	17 %	7 000		
	2 Offices	18 000	0	1,50	66 %	27 000		1800 work places. 15 brm²/person (GFA). Built in phases. Phase 1: 13 500 m² GFA, 900 work places (50 %). Phases 2–3: 6 750 m² GFA, 450 work places (25 %).
	3 Common Spaces	3 400	0	1,50	12 %	5 100		
	4 Service Spaces	1 600	0	1,25	5 %	2 000		
		28 000	0	1,47	100 %	41 100		
	5 Mechanical Spaces	3 800	0					
	Car parking					343 pcs		1 car parking place/120 brm² (GFA). Above-ground parking.
	Bicycle parking					685 pcs		1 bicycle parking place/60 brm² (GFA).

## **Detailed Space List**

Deta	illed Space List							
0-4-	Tan Orașa		# of	m² NUA per Unit	m² NUA	m² NUA	Dimens. W x D	Free height L
Code	Tag Space		Unit(s)	(hym²)	(hym²)	(hym²)	min. (m)	min (m) Details
	1.1 Modular Labs	2 400						
	1.1.1 Flexible Research and Testing Space ('The Hangar')		1 pcs	2 400	2 400		60 x 40	15 Small modular laboratories (shipping containers) min. 20 pcs. Presentations. Delivery drive-in (truck). Delivery vehicle length 12 m, height 3,5 m (door height 4,2 m).
	1.2 OTA RF (Over-the-Air Radio Frequency) Testing Ranges	1 300						OTA RF (Over-the-Air Radio Frequency) test ranges. Electromagnetically shielded anechoic chambers (no reverberant sounds, reduced electromagnetic field). Wall thickness with radiation-absorbent material 0,9–1,2 m. Delivery drive-in (forest harvester). Delivery vehicle length 8 m, height 3,7 m (door height 4,2 m).
	1.2.1 Radar Cross Section Test Range		1 pcs	1 000	1 000		35 x 25	20 Delivery drive-in (truck). Delivery vehicle length 12 m, height 3,5 m (door height 4,2 m).
	1.2.2 Compact Antenna Test Range		1 pcs	100	100		12 x 8	8 Multi-purpose chamber for accurate, indoor antenna, radome and radar cross-section (RCS) measurements.
	1.2.3 Combo Near-Field Test Range		1 pcs	90	90		10 x 8	7 Multi-purpose chamber for Planar Near-field (PNF) antenna, Cylindrical Near-field (CNF), and Spherical Near- field (SNF) measurements.
	1.2.4 Multi-purpose Near-Field and Calibration Test Range		1 pcs	60	60		6 x 9	5 Test range for calibration of antennas.
	1.2.5 Spherical Near-Field Test Range		1 pcs	40	40		6 x 6	6 Accurate pattern testing of directive, multi-port and beam steering antennas. Near-field and far-field measurements.
	1.2.6 High-Frequency Spherical Near-Field Test Range		1 pcs	10	10		3 x 3	4 Test range for characterizing low gain antennas at millimeter (mm) wave frequencies.
	1.2.7 Outdoor Far-Field Test						<del>100 x 40</del>	Outdoor test range.
	1.3 SIT (System Integration	1 300						SIT (System Integration Testing) laboratories. High
	Testing) Labs	1 000						demands for IT infrastructure.
	1.3.1 Flexible SIT Lab		1 pcs	500	500			<ol> <li>Flexible laboratory with modular installations. Open space configuration.</li> </ol>
	1.3.2 Avionics SIT Lab		1 pcs	200	200		14 x 14	6 System integration testing for avionics.
	1.3.3 Large SIT Lab		2 pcs	200	400		16 x 12	8 General purpose laboratory.
	1.3.4 Small SIT Lab		4 pcs	50	200			3.5 General purpose laboratory.
	2.1 Office	18 000						Modular office spaces. Open office space, team workspaces, and private offices.
	2.1.1 Private Office		480 pcs	10	4 800			8–12 m². Large offices (10–12 m²) for 1–2 person(s). Vacant/non-dedicated offices can be used as additional quiet spaces.
	2.1.2 Team Workspace				2 560			2–6 persons. 8 m²/person. Vacant/non-dedicated team workspaces can be used as additional meeting rooms.
	2.1.3 Open Office				6 400			8 m²/person (workspace 7.5 m²/person, open meeting area 0.5 m²/person).
	2.1.4 Quiet Space		96 pcs	7	672			6–8 m². Small meetings (2–3 persons), phone calls, remote meetings, and silent work.
	2.1.5 Meeting Room		48 pcs	18	864			6–10 persons. 16–20 m². Meetings (in-person and remote) and project work.
	2.1.6 Print Room		48 pcs	5	240			
	2.1.7 Storage				480			General purpose storage. Office supplies and archives. 40–80 % decentralized.
	2.1.8 Lobby/Breakroom 2.1.9 Cloakroom/Lockers		16 pcs	100 7	1 600			1/100 persons. Kitchen and lounge. Decentralized.  Decentralized.
	2.1.9 Cloakfoon/Lockers 2.1.10 Bathroom		16 pcs	,	192			Decentralized.
	2.1.11 Accessible Bathroom		16 pcs	5	80			Decentralized.
	3.1 Foyer	750						
	3.1.1 Foyer				400			Waiting area and exhibition space.
	3.1.2 Reception		1 pcs	30	30			,
	3.1.3 Back Office		1 pcs	20	20			Connected to reception.
	3.1.4 Cloakroom				180			Served (desk) or self-service.





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3.1.5 Restrooms				120	Connected to foyer, restaurant, and conference area. Includes accessible bathrooms (2 pcs).
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3.2 Restaurant	1 150				
3.2.1 Restaurant	1 100			720	480 persons. Separate dining rooms for 12 persons (2po
					and 24 persons (2 pcs). Can be used as a reading area and open work space outside lunch hours. Separate entrance.
3.2.2 Cafeteria				180	120 persons. Connected to restaurant and kitchen. Can
J.Z.Z Galeteria				100	used as a dining space during lunch hours. Separate entrance.
3.2.3 Kitchen				250	Delivery.
3.3 Conference Area	1 500				
3.3.1 Auditorium		1 pcs	720	720	540–600 seats. Raised seating.
3.3.2 Multi-Purpose Space ('Black Box')		1 pcs	240	240	6 150–180 seats. Flat floor. Flexible seating.
3.3.3 Conference Room		2 pcs	120	240	4 Flat floor. Flexible seating.
3.3.4 Meeting Room		2 pcs	48	96	24–30 persons.
3.3.5 Meeting Room		4 pcs	24	96	10–14 persons.
3.3.6 Meeting Room		6 pcs	18	108	6–10 persons.
4.1 Personnel Services	660		0.40	0.40	O - man and and the description of the second
4.1.1 Gym		1 pcs	240	240	Connected to locker rooms.
4.1.2 Locker Room		2 pcs	180	360	Locker room, bathrooms, shower, and sauna for occupa Good connection to gym and bicycle parking.
4.1.3 Locker Room		2 pcs	30	60	Locker room, bathrooms, and shower for staff.
4.0 Building Comises	0.40				
4.2 Building Services 4.2.1 Mailroom	940	1	100	100	Mail and delivery. Temporary storage.
4.2.1 Mailroom 4.2.2 Central Cleaning Service		1 pcs	100 24	72	1 pcs/space group 1–3 (labs, office area, common space
Room		3 pcs			
4.2.3 Cleaning Storage		16 pcs	3	48	Decentralized in office area.
4.2.4 Control Room		1 pcs	10 10	10 10	Central control and monitor station for building systems
4.2.5 Building Security 4.2.6 Workshop		1 pcs	120	120	Building maintenance workshop and storage.
4.2.5 Workshop		1 pcs 1 pcs	120	120	IT workshop and storage.
4.2.8 Archive		1 pcs	40	40	Tr workshop and storage.
4.2.9 Central Storage		i pcs	40	360	Central storage.
4.2.10 Property Maintenance		1 pcs	60	60	Drive-in.
Storage (Garage)		1 pcs	00	00	
4.2.11 Waste Management					Outside building's thermal envelope but sheltered. Restricted access. Delivery.
5.1 Mechanical Spaces	3 800				HVAC spaces on the roof.
5.1.1 HVAC – Labs	3 000			700	4 10 % of GFA (brm²).
5.1.2 HVAC – Office				1 890	4 7 % of GFA (brm²).
5.1.3 HVAC – Common Spaces				510	4 10 % of GFA (brm²).
5.1.4 HVAC – Services				140	4 7 % of GFA (brm²).
5.1.5 Transformer				80	Direct access from outside.
5.1.6 Switch				80	Direct access from outside.
5.1.7 Heating Room				240	
5.1.8 Water Control Room				60	
5.1.9 Telecommunication Room				100	Direct access from outside.
5.1.10 Sprinkler Riser Room					