

## ArcGIS use in Finnish universities, annual report 2022

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This is the annual report of the Finnish university ArcGIS Site license consortium. There were 16 university members in the consortium and it was coordinated by CSC– Finnish IT Centre for Science.

The members of the consortium were:

1. Aalto University
2. HAMK University of Applied Sciences
3. Karelia University of Applied Sciences
4. Lapland University of Applied Sciences
5. Laurea University of Applied Sciences
6. Novia University of Applied Sciences
7. Oulu University of Applied Sciences
8. South-Eastern Finland University of Applied Sciences
9. Tampere University of Applied Sciences
10. Tampere University of Technology
11. University of Eastern Finland
12. University of Helsinki
13. University of Jyväskylä
14. University of Oulu
15. University of Turku
16. Åbo Akademi

The Site license included following software for academic use:

- ArcGIS Desktop and Pro with extensions, concurrent and single use licenses
  - 3D Analyst, Data Interoperability, Data Reviewer, Geostatistical Analyst, Network Analyst, Production mapping, Publisher, Roads and Highways, Schematics, Spatial Analyst, Tracking Analyst, Workflow Manager.
- Esri CityEngine
- ArcGIS Server with extensions
- ArcPad
- Special applications: ArcGIS for Maritime: Bathymetry and Charting, ArcGIS for Aviation: Charting, Esri Defense Mapping
- Virtual Campus courses
- ArcGIS Online: 1 Level 3 Plan. Includes 12500 credits / university.

Additionally, ESRI Finland's road and street network data was available for download for all consortium members for academic use.

## Usage statistics

**ArcGIS Pro has now become the main desktop tool used by Finnish universities.** ArcGIS Pro uses primarily a different licensing system - named users, instead of license server. Named user licenses are provided in ArcGIS Online, in total 2785 users had such license in 2022. This is 37% increase compared to 2021. Additionally, 1537 users (+57%) used ArcGIS Pro with concurrent license installed to CSC license server and 11 had ArcGIS Pro Single Use license.

The biggest number of users of ArcGIS Pro named licenses have University of Helsinki, HAMK University of Applied Sciences and University of Oulu. More detailed named users ArcGIS Pro license statistics can be found from Appendix A.

The ArcGIS license manager was common for all universities and it is maintained by CSC. During 2022 the license server was in total connected by 2578 users (+9%) from 2726 computers (-5%). The number of users of the old ArcGIS Desktop is clearly decreasing (see figures 1 and 2).

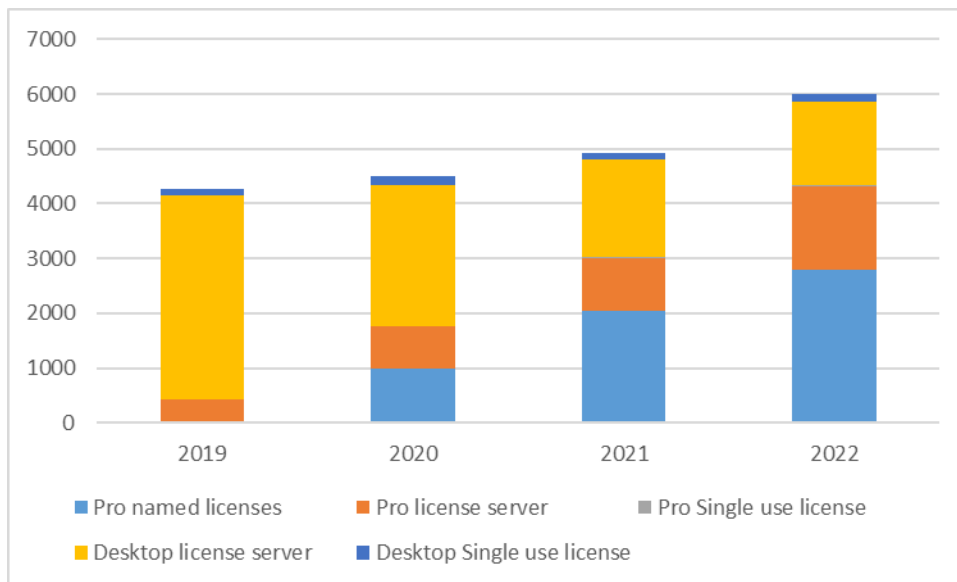


Figure 1. Usage of ArcGIS desktop products different licensing options. Note that, very likely many users have used several of these options, so the total number of ArcGIS desktop products' users can't be counted in this way.

ArcGIS main licenses (ArcGIS Desktop or Pro) were checked out 85 351 times (+1 %). Totally there were 316 712 license checkouts (+11%), that includes also all the extensions and special features. The most used extensions were: Spatial Analyst, Network Analyst, Image Analyst, Geostatistical analyst and 3D Analyst. At most busy day the license server had 89 concurrent users (3.2.2022). More detailed information about ArcGIS license server use is available from Appendices B.

## ArcGIS usage statistics in Finnish universities – 2022

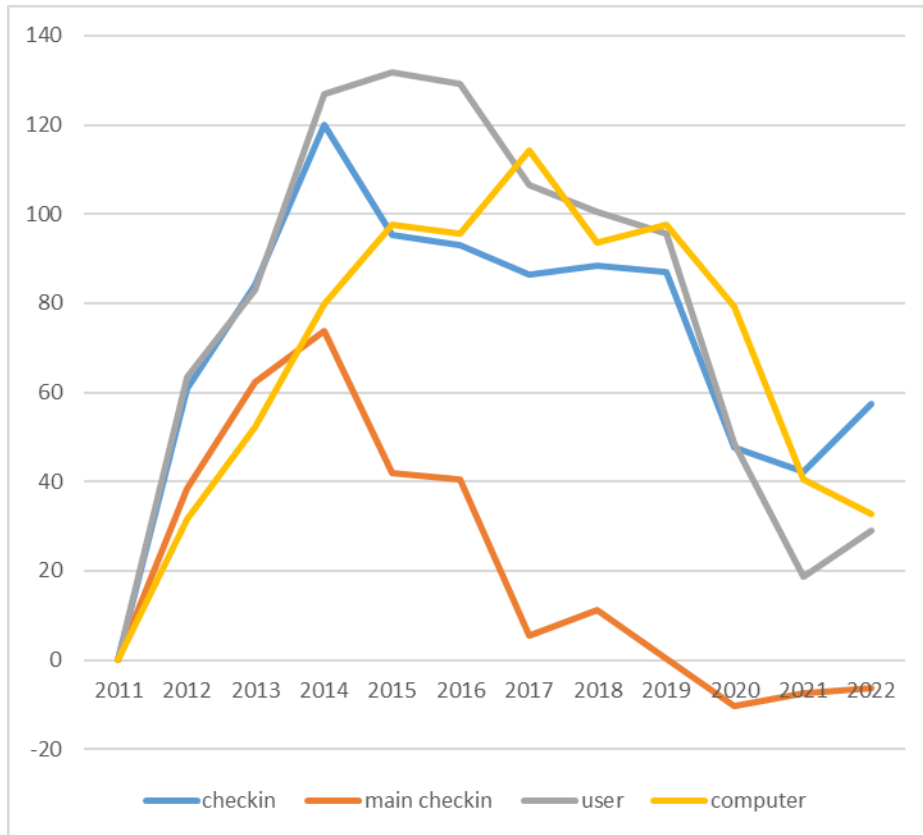


Figure 2. Relative change during the years in main usage statistics of CSC's ArcGIS license server.

Single Use licenses were used for 155 installations in 2022.

CityEngine product had only 2 users, last year it had only 1 user.

ArcGIS Server licenses were installed to 1 instance.

Attendance to the Virtual Campus courses was very good in some of the universities. 1109 courses were attended, 84 % of the courses were completed. Most active Virtual Campus users were from University of Helsinki and Turku, and HAMK University of Applied Sciences.

**Appendix A. Users of ArcGIS Online and users with named ArcGIS Pro license in universities**

University	Users with named ArcGIS Pro license
University of Helsinki	597
HAMK University of Applied Sciences	415
University of Oulu	395
University of Eastern Finland	366
University of Turku	308
Lapland University of Applied Sciences	235
Novia University of Applied Sciences	216
Aalto University	98
South Eastern Finland University of Applied Sciences	91
Åbo Akademi	32
Tampere University	15
University of Jyväskylä	11
Laurea University of Applied Sciences	5
North Karelia University of Applied Sciences	0
<b>Total</b>	<b>2784</b>

**Appendix B. Use of ArcGIS desktop products and extensions**

	Total number of license check outs	Users
<b>Product:</b>		
ArcGIS Pro Advanced	54969	1537
ARC/INFO	30354	1533
<b>ArcGIS Pro extensions:</b>		
spatialAnalyst	22892	944
networkAnalyst	13560	679
imageAnalyst	12310	514
geostatAnalyst	11530	463
3DAnalyst	11549	460
dataInterop	9456	377
productionMap	8231	347
dataReviewer	7626	347
workflowMgr	8270	341
publisher	7787	341
locRef	8080	340
defense	7631	339
airports	7752	328
locateXT	7254	325
maritime	6778	323
aviation	6628	284
bathymetry	5835	279
<b>ArcGIS desktop extensions:</b>		
TIN	12813	628
GeoStats	9227	400
Network	6715	374
Publisher	4244	240
Schematics	1097	196
Interop	5602	136
Foundation	1418	133
Defense	2194	128
NauticalB	1787	127
Aeronautical	1299	127
DataReViewer	416	67
Nautical	344	63
AeronauticalB	337	59
Plotting	264	28

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ArcStorm	264	28
LocRefDesktop	92	14
Highways	84	14
LocateXT	68	11