

## Services in the basic fee Infrastructure

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This brochure lists the rates for the services provided by SURF. These are **the rates that members pay** for SURF services. Non-members pay different rates in some cases. The brochure is divided up as follows:

- services covered by the basic fee Infrastructure
- services covered by the basic fee Procurement and Digital Platforms
- additional services, for which you pay a separate rate

SURF provides most research services not only on a fee basis, but according to NWO conditions directly to researchers at knowledge institutions.

#### More information

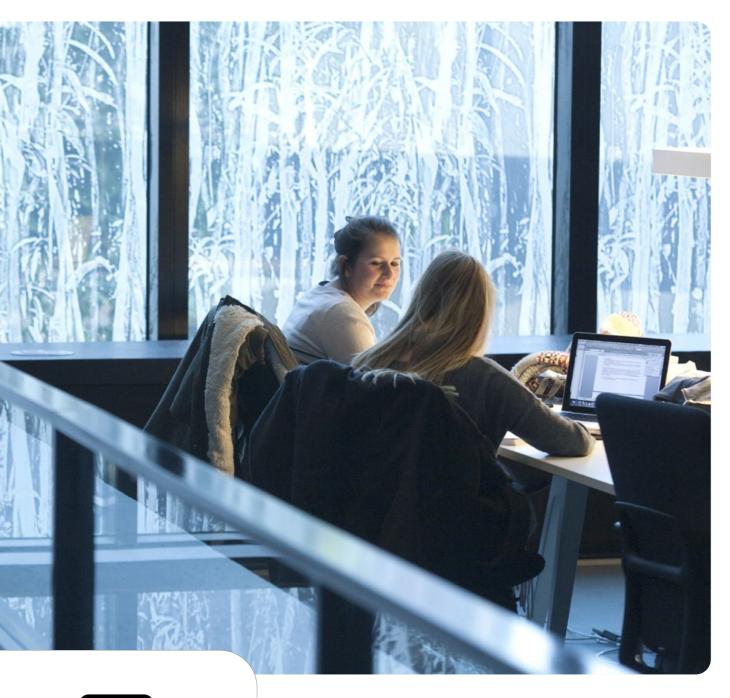
Do you have any questions or would you like more information? Then contact your relationship manager at SURF. Or go to <a href="www.surf.nl/en/services">www.surf.nl/en/services</a>.

All rates are **exclusive of VAT** and subject to change and typing errors.





# Services in the basic fee Infrastructure



If you pay the basic fee Infrastructure, you are free to use the following services:

#### **Network connectivity**

#### SURFinternet

SURFinternet offers Dutch education and research institutions a fast and reliable Internet connection of 1 to 100 Gbit/s. With SURFinternet, all users in the education and research communities are connected to each other and can collaborate nationally and internationally.

www.surf.nl/en/surfinternet

#### eduroam

eduroam gives students, lecturers, staff and researchers quick and easy access to the fixed and wireless networks at their own institution and at other institutions that offer this service. At more than 30.000 locations in more than 100 countries.

www.surf.nl/en/eduroam

#### eduroam Visitor Access

You can use eduroam Visitor Access to create temporary eduroam-accounts and assign them to your institution's visitors. This allows visitors to use the same safe and reliable Wi-Fi network as students, researchers, lecturers and staff.

www.surf.nl/en/eva

SURF

#### Security, trust & identity

#### **Cybersave Yourself**

Do you want to make employees and students more aware of the dangers of the Internet? Then make use of Cybersave Yourself, a campaign that increases the awareness of your staff and students with regard to security and privacy in an entertaining manner. The campaign consists of a website and an online toolkit with ready-made material.

www.surf.nl/en/cybersaveyourself

#### **SURFconext**

Let your users log in with one username and password to all cloud services your institution uses. Both for services that everyone uses and for services for small specialist teams. Secure, easy and privacy friendly.

www.surf.nl/en/surfconext

#### **SURF Research Access Management**

Researchers often spend a lot of time arranging secure access to the systems they need for their research. SURF Research Access Management provides research collaborations with fast, easy, and secure access to these systems.

For HBO, WO and UMC, SURF Research Access Management is in the basic fee Infrastructure, for other sectors it is an additional service.

www.surf.nl/en/sram

#### **SURFcert**

SURFcert provides your institute with security incident support 24 hours a day, 7 days a week. SURFcert also provides you with tools to optimise security within your institute yourself. For example, SURFcert is continuously minimising the nuisance of DDoS attacks.

www.surf.nl/en/surfcert

#### **SURFaudit**

Has your institution organised the security and continuity of its company data, and the privacy of its students and staff? Have your business partners done so? SURFaudit shows you what you should take care of at a minimum for information security and privacy. Determine how your institution is doing and compare with other research and education institutions.

www.surf.nl/en/surfaudit

#### Cyber crisis exercise OZON

OZON is a large-scale national cyber crisis exercise that takes place every two years. During the OZON exercise, you will practice how to react to a cyber crisis and find out whether you are already well prepared for a cyber crisis as an institution.

www.surf.nl/en/ozon



#### **Data services**

#### **SURFfilesender**

Want to send and receive files quickly, securely and easily? With SURFfilesender, you can send large files, such as research data. The files are stored in the Netherlands. Encryption provides added security.

www.surf.nl/en/surffilesender

#### edubadges

edubadges is the digital certificates platform for the Dutch education community. edubadges enable you to award students or workers with evidence of knowledge and skills they have acquired. An edubadge is issued electronically within a secure and trusted SURF platform.

For HBO and WO, edubadges is in the basic fee Infrastructure, for MBO it is an additional service.

www.surf.nl/en/edubadges

#### **SURFeduhub**

SURFeduhub is the platform for sharing educational data between Dutch educational institutions. Safely and via open standards. For example, students can easily view the educational offerings of their own institution and those of other institutions, as well as timetable or study progress information.

For HBO and WO, SURFeduhub is in the basic fee Infrastructure, for MBO it is an additional service.

www.surf.nl/en/surfeduhub

#### **Digital platforms**

#### SURFdashboard

SURFdashboard offers an overview of a large number of infrastructure services. Institution's contact persons can sign up for services and change contact persons. You can also view monthly reports on the services that your institution utilises.

www.surf.nl/en/surfdashboard

#### Expertise, advice and training

#### SURFacademy

SURFacademy offers professionalisation meetings on current IT themes for staff working in education and research. We organise these meetings together with the Dutch education and research institutions.

www.surf.nl/en/surfacademy





# Services in the basic fee Procurement and Digital Platforms

If you pay the basic fee Procurement and Digital Platforms, you can use the following services. The agreements on the annual contribution in accordance with the service agreements for content procurement UKB and SHB apply, as well as a mark-up percentage for the products purchased.

#### Agreements with market parties

#### IT procurement

You can of course purchase IT products and services yourself, but this takes a lot of time, knowledge, and money. You can also make use of one of SURF's purchasing options. We collate the demand and need at the institutions and purchase software and hardware on that basis. This will of course be at the best possible terms.

www.surf.nl/en/it-procurement

#### Content procurement

SURF concludes agreements with publishers on behalf of the university libraries (UKB and SHB). This gives researchers and students access to a wide range of (scientific) journals and databases that are important for education and research.

www.surf.nl/en/content-procurement



#### Distribution of hardware and software

Via MijnSURFmarket and SURFspot.nl, institutions, staff, and students purchase hardware and software that are part of framework and brokerage agreements.

www.surf.nl/en/it-facilities/joint-procurement

#### **Digital platforms**

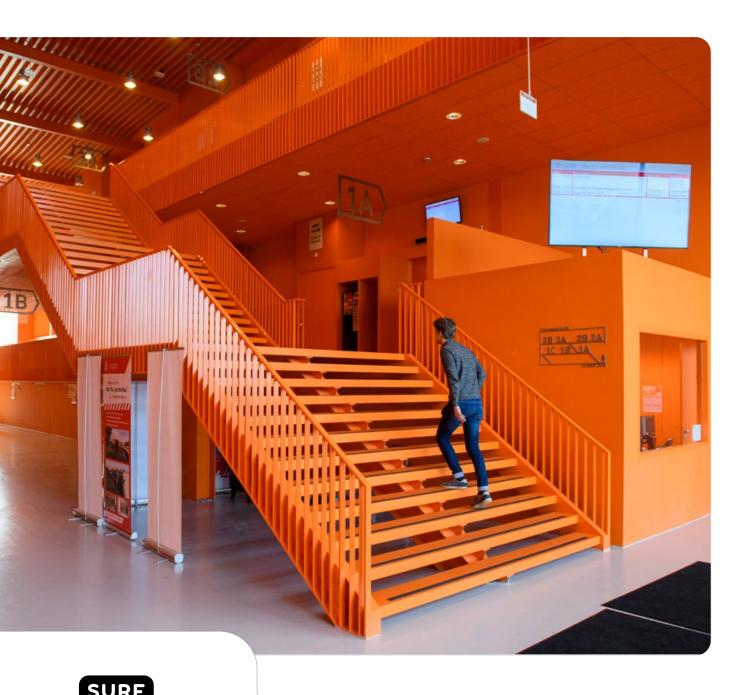
#### Auteursrechten.nl

Auteursrechten.nl acts as a single point of reference for education staff, instructors, students and researchers to find reliable information on issues relating to copyright. They will find legal information, practical resources and tools.

www.surf.nl/en/auteursrechten-nl



# Additional services



#### **Compute services**

#### Rate models

The compute services can be purchased as an individual service or as a component via an RCCS contract. Compute bundles can be purchased in advance and have a validity period of 12 months.

#### **Research Capacity Computing Service (RCCS)**

Number of credits	Rate per 1,000 credits
0-80,000	EUR 33.14
80,000-800,000	EUR 30.27
800,000-4,000,000	EUR 29.40
4,000,000-8,000,000	EUR 29.11

#### **RCCS** credits

Service	Quantity	Credits per TB per month
		Project space
HPC Cloud <sup>1</sup>	1.05 credits per CPU hour 18 credits per GPU hour	HDD storage: 700 SSD storage: 1,550
Public clouds (SURFcumulus) <sup>2</sup>	35.26 credits per euro (highest increment price)	

<sup>&</sup>lt;sup>1</sup> The usage on HPC Cloud is measured in core hours and TB per month.

The usage on public clouds is measured in euros.

#### **National Supercomputer Snellius**

The National Supercomputer Snellius is the largest system in the Netherlands in terms of high-performance computing, fast processors and GPUs, a very fast internal network, a lot of memory space and the ability to process large data sets.

Number of SBU	Rate per 1,000 SBUs
0-10,000,000	EUR 10

#### **Storage space**

The default storage space is 200 GB (homedir).

Additional local storage	Rate per TB per month
Homedir	EUR 88
Project space	EUR 11

www.surf.nl/en/snellius



#### **National Compute Cluster Lisa**

With the Lisa Compute Cluster, researchers can easily scale up to a higher level. The Lisa Compute Cluster combines computing power with ease of use. It is already set up with a range of software packages, so that researchers can get started right away.

#### **Lisa CPU**

Number of CPU core hours	Rate per 1,000 core hours
0-800,000	EUR 35.77
800,000-4,000,000	EUR 32.51
4,000,000-8,000,000	EUR 29.55

#### **Lisa GPU**

The GPU rate is based on the use of the Nvidia 1080Ti. Other GPU cards such as Titan RTX are available; rates are on request.

Rate per GPU hour
EUR 0.40
EUR 0.38
EUR 0.37
EUR 0.35

#### **Storage space**

The default storage space is 200 GB (homedir).

Additional local storage	Rate per TB per month
Homedir	EUR 88
Project space	EUR 11

www.surf.nl/en/lisa-compute-cluster



#### **High-performance Data processing**

Do you want to process and store large volumes of data? Our high-throughput data processing services are suited for projects that require processing of large, structured datasets. Such as instrument data from sensors, DNA sequencers, telescopes, and satellites. Grid's data storage offers maximum scalability, both in performance and volume, by using the dCache service.

#### Grid

The Grid platform offers a limitless potential of compute power and data processing thanks to a chain of international clusters connected by a fast network.

#### **CPU**

Number of core hours	Rate per 1,000 core hours
0-80,000	EUR 33.36
80,000-800,000	EUR 30.97
800,000-8,000,000	EUR 28.59
> 8,000,000	EUR 26.21

#### **GPU**

Rate per 1,000 GPU hours	EUR 541.13
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#### Disk

In RAID configuration; scalable data throughput in flexible environment supporting many data transport methods; can also be used in combination with other compute systems.

Number of TBs	Rate per TB per month
0-50	EUR 13.70
50-500	EUR 13.35
500-1,000	EUR 10.22
> 1,000	EUR 7.37

#### Tape (double copy)

#### Spider

Spider is a dynamic, flexible and customisable high throughput platform hosted locally at SURF. It is optimised for collaboration.

#### **CPU**

Number of core hours	Rate per 1,000 core hours
0-80,000	EUR 33.36
80,000-800,000	EUR 30.97
800,000-8,000,000	EUR 28.59
> 8,000,000	EUR 26.21

#### **GPU**

Rate per 1,000 GPU hours	EUR 541.13
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#### **Shared disk storage**

Scalable network filesystem with 3x internal replication.

Number of TBs	Rate per TB per month	
	HDD	SSD
0-50	EUR 20.52	EUR 45.77
50-500	EUR 18.42	EUR 45.77
> 500	EUR 16.37	EUR 45.77

www.surf.nl/en/high-performance-dataprocessing



#### MS4

MS4 offers project-based collaboration with and support for research groups in the development or continued development of their custom platforms on SURF's private cloud, for example with regard to design, performance, availability, security, and manageability. MS4 also offers options for long-term operational support from SURF for the developed custom-made solution.

#### **CPU**

Number of core hours	Rate per 1,000 core hours
0-80,000	EUR 33.36
80,000-800,000	EUR 30.97
800,000-8,000,000	EUR 28.59
> 8,000,000	EUR 26.21

#### **GPU**

#### **Block Storage**

Private disk images with 3x internal replication.

Number of TBs	Rate per TB per month	
	HDD	SSD
0-50	EUR 20.52	EUR 45.77
50-500	EUR 18.42	EUR 45.77
> 500	EUR 16.38	EUR 45.77

#### **Custom Cloud Solutions (CCS)**

SURF offers researchers the opportunity to jointly build a cloud solution geared to the wishes and requirements of the users. Standard cloud components are used for this purpose and adapted where necessary. SURF has its own cloud infrastructure but can also make use of public clouds such as AWS. A hybrid solution is also possible. The rates given below apply if the SURF infrastructure is used.

#### **CPU**

Number of core hours	Rate per 1,000 core hours
0-80,000	EUR 33.36
80,000-800,000	EUR 30.97
800,000-8,000,000	EUR 28.59
> 8,000,000	EUR 26.21

#### **GPU**

Rate per 1,000 GPU hours	EUR 526.90

#### **Block Storage**

Private disk images with 3x internal replication.

Number of TBs	Rate per TB per month	
	HDD	SSD
0-50	EUR 20.52	EUR 45.77
50-500	EUR 18.42	EUR 45.77
> 500	EUR 16.38	EUR 45.77

Ask for rates for customised solutions on public clouds. If necessary, you can use existing SURFcumulus contracts.



#### Jupyter Notebook Hub

A Jupyter Notebook is an interactive web application that you can use to create documents, known as notebooks, that contain computer code, formatted text, comparisons and visualisations. The code can be executed in the environment and you can even create streaming applications and dashboards. The rates for this service are on request.

www.surf.nl/en/jupyter



#### **Network connectivity**

#### SURFinternet upgrade

The following options are available in addition to the basic SURFinternet service:

Upgrade to	Rate per month
10 Gbit/s	EUR 1,165
40 Gbit/s	EUR 3,257
100 Gbit/s	EUR 3,257

#### Connecting third parties to the SURF network

If your institution is connected to the SURF network, you can, under certain conditions, register third parties to use the SURFinternet service. They can only use a network connection via SURF, and not the additional SURF services.

Volume	Rate per month	
	Third party belongs to the SURF target group	Third party does not belong to the SURF target group
0-25 FTE	EUR 0	EUR 0
26-50 FTE	EUR 282	EUR 562
51-100 FTE	EUR 562	EUR 843

SURF charges these rates to your institution. You can pass these costs on to the third parties.

www.surf.nl/en/connecting-third-parties



#### Connecting other locations

In addition to your primary location, you can also easily connect other locations of your institution to the SURF network. SURF will then create a point of presence (PoP) at these secondary locations. You can then apply for SURFinternet or SURFlichtpaden to make connections via these fibre optics.

Rates for secondary locations connections are on request. Contact your relationship manager at SURF.

www.surf.nl/en/connecting-other-locations

#### **SURFinternetpinnen**

SURFinternetpinnen allows institutions to handle payment traffic between PIN terminals and payment processors via a secure connection. Because such a secure connection is no longer needed for payment traffic, SURFinternetpinnen will be phased out on January 1, 2024.

Rate per month

**EUR 59** 

www.surf.nl/en/surfinternetpinnen





As an IT administrator, you easily register and migrate Internet domains using the SURFdomains service. Managing the DNS is also easy through the online portal. You make your changes in real time.

There is no charge for the first domain. Each further domain registration:

DNSSEC-signed domain (only domains .nl, .com, .net, and .org)	EUR 3 per month
Non-DNSSEC-signed domain	EUR 4 per month

This charge is independent of the top-level domain that you select (.nl, .com, .net, .org, .eu, or .info).

www.surf.nl/en/surfdomeinen

#### **SURFfirewall**

SURFfirewall takes care of the procurement, configuration and management of your firewall. For a fixed monthly fee you have a firewall that we manage and that is scalable in capacity and functionality. You don't have to worry about it anymore. You only manage the policies yourself, via our user-friendly portal. In this way you stay in control.

Capacity SURFfirewall	Rate per month, excluding VAT
1 Gbit/s	EUR 1,113
2 Gbit/s	EUR 1,784
3 Gbit/s	EUR 2,456
4 Gbit/s	EUR 3,126
5 Gbit/s	EUR 3,797
6 Gbit/s	EUR 4,468
7 Gbit/s	EUR 5,148

One-time connection fee	EUR 1,602	

www.surf.nl/en/surffirewall



#### SURFlichtpaden

Do you need an ultra-fast, extremely reliable connection to another institution, data centre, service provider or different destination? SURFlichtpaden enables you to create an exclusive and direct connection outside the boundaries of the public Internet. Light paths offer additional security, reliability, and high capacity – guaranteed.

If a light path is connected to an MSP on one side, a 50% discount applies.

www.surf.nl/en/surflichtpaden

#### **National fixed light paths**

Light path type	Rate per month		
		Inner-City (ports within the same municipal limits)	Inter-City (ports not within the same municipal limits)
50 Mbit/s	protected	EUR 44	EUR 77
	redundant	EUR 54	EUR 80
250 Mbit/s	protected	EUR 203	EUR 384
	redundant	EUR 269	EUR 404
500 Mbit/s	protected	EUR 404	EUR 769
	redundant	EUR 539	EUR 808
750 Mbit/s	protected	EUR 608	EUR 1,151
	redundant	EUR 808	EUR 1,213
1 Gbit/s	protected	EUR 808	EUR 1,535
	redundant	EUR 1,077	EUR 1,616
10 Gbit/s	protected	EUR 1,940	EUR 3,687
	redundant	EUR 2,587	EUR 3,880
40 Gbit/s	protected	on request	EUR 5,870
	redundant	on request	EUR 6,404
100 Gbit/s	protected	on request	EUR 8,540
	redundant	on request	EUR 9,607

#### National fixed light paths to NetherLight

The rates below apply for light paths to service providers connected to NetherLight. More information can be found at <a href="https://www.surf.nl/en/netherlight">www.surf.nl/en/netherlight</a>.

Light path type	Rate per mon	th	
		Inner-City (ports within the same municipal limits)	Inter-City (ports not within the same municipal limits)
50 Mbit/s	protected	EUR 30	EUR 58
	redundant	EUR 42	EUR 61
250 Mbit/s	protected	EUR 152	EUR 290
	redundant	EUR 203	EUR 303
500 Mbit/s	protected	EUR 303	EUR 575
	redundant	EUR 404	EUR 608
750 Mbit/s	protected	EUR 455	EUR 865
	redundant	EUR 608	EUR 909
1 Gbit/s	protected	EUR 608	EUR 1,151
	redundant	EUR 808	EUR 1,213
10 Gbit/s	protected	EUR 1,455	EUR 2,765
	redundant	EUR 1,940	EUR 2,911

#### International fixed and on-demand light paths

Rates for these services are on request.





#### **Multi Service Port (MSP)**

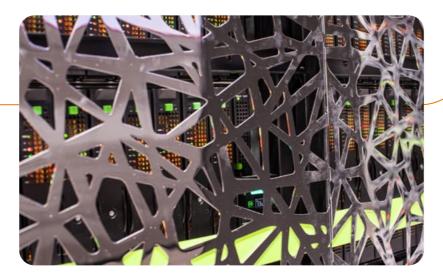
A Multi Service Port (MSP) is a connection to the SURF network that allows you to set up multiple light paths. You can divide the bandwidth among the light paths, making flexible and efficient use of the available bandwidth.

Multi Service Port type	Rate per month
Multi Service Port 1 Gbit/s	EUR 769
Multi Service Port 10 Gbit/s	EUR 1,842
Multi Service Port 40 Gbit/s (special)	EUR 2,936
Multi Service Port 100 Gbit/s	EUR 4,161
Redundant Multi Service Port 1 Gbit/s	EUR 808
Redundant Multi Service Port 10 Gbit/s	EUR 1,940
Redundant Multi Service Port 40 Gbit/s (special)	EUR 3,202
Redundant Multi Service Port 100 Gbit/s	EUR 4,682

There is no charge for light paths between two MSPs within the SURF network or from an MSP to NetherLight.

#### **L2VPN** and **L3VPN**

As an institution, do you work together from different locations and want to set up online collaborations in one network? Or do you want to use cloud providers in a secure, but also easy way? Then you can set up a virtual private network via SURF's network using L2VPN or L3VPN. A Multi Service Port is required for this functionality.



#### **SURFwireless**

#### **SURFwireless Managed**

Your users want a fast Wi-Fi network that is available anytime and anywhere. Purchasing and maintaining such a network takes a lot of time and knowledge. SURFwireless offers Wi-Fi as a Service. This provides you with a reliable, high quality Wi-Fi6 network, allowing you to move forward technically for years to come.

#### **Base rate:**

Per indoor access point	EUR 17.50 per month
Per outdoor access point	EUR 25 per month

This includes the costs of hardware (replacements), personnel, licences, tendering, and 24x7 monitoring and maintenance. The rates are for a contract period of five years. The one-time costs per site are variable and based on the size of the site. These costs are quoted separately.

#### **SURFwireless Do It Yourself**

With this variant, SURF takes care of the purchase and implementation of the Wi-Fi environment. From delivery onwards, you will be at the controls and will take care of the maintenance and management of the environment, supported of course by the expertise of SURF.

#### **Basic rate:**

Per indoor access point	EUR 14.50 per month
Per outdoor access point	EUR 22 per month

These rates include the costs of hardware (replacements), licenses and tendering and apply for a contract period of five years. The one-time costs per site are variable and based on the size of the site. These costs are quoted separately.

#### **SURFwireless Start**

We manage your existing Wi-Fi network while your new SURFwireless network is under construction. The rates are set per project.

www.surf.nl/en/surfwireless



#### **SURFopzichter**

IT administrators use SURFopzichter ('SURF Supervisor') to monitor – online and in real time – the performance and availability of Internet services, for example websites and e-mail facilities. This online application allows you to set up checks and notifications, and to create comprehensive reports.

Rate per month

**EUR 112** 

www.surf.nl/en/surfopzichter



#### Security, trust & identity

#### **SURFmailfilter**

SURFmailfilter gives connected institutions an easy way of checking all their incoming and outgoing e-mail and filtering it for viruses, phishing and spam. SURFmailfilter detects at least 95% of spam. SURFmailfilter runs on the SURF network and is available for IPv4 and IPv6.

Number of students	Rate per month
0-2,500	EUR 349
2,501-5,000	EUR 581
> 5,000	EUR 933

www.surf.nl/en/surfmailfilter

#### SURFcertificaten

SURFcertificaten ('SURFcertificates') provides several types of certificates for users at affiliated institutions. Certificates are essential for IT-security. They enable encryption of information between computer systems and can provide digital signatures for documents or software code.

Rate per month, irrespective of the number of certificates

**EUR 146** 

www.surf.nl/en/surfcertificaten



#### eduVPN

eduVPN makes untrusted networks secure, by establishing an encrypted connection. This way, students, lecturers and researchers can use the Internet securely everywhere, and you can grant access to your institution's protected systems securely, even if users are using the Internet connection on a train, a square, or at home.

Number of employees and/or students	Rate per month
0-1,000	EUR 110
1,001-5,000	EUR 550
5,001-15,000	EUR 937
> 15,000	EUR 1,377

If you use eduVPN to shield institutional services, additional costs for light paths may arise if there is no available MSP capacity.

www.surf.nl/en/eduvpn

#### **SURFsecureID**

SURFsecureID makes access to online services more secure through multifactor authentication. Users log in with a user name and password and with a second factor: an SMS, a USB key, a mobile app (tiqr) or their Microsoft token. SURFsecureID is highly suitable for services involving sensitive data, and for preventing abuse of accounts.

Number of users	Rate per month
0-1,000	EUR 278
1,001-5,000	EUR 499
> 5,000	EUR 1,222

Rate is flat fee and includes 500 SMS transactions per month (for more than 500 SMS transactions per month, SURF charges EUR 0.055 per SMS). Rates do not include any costs of tokens. The minimum purchase period is three years.

www.surf.nl/en/surfsecureid



#### **SURF Research Access Management**

Researchers often spend a lot of time arranging secure access to the systems they need for their research. SURF Research Access Management provides research collaborations with fast, easy, and secure access to these systems.

For HBO, WO and UMC, SURF Research Access Management is in the basic fee Infrastructure, for other sectors it is an additional service.

Rate per month

EUR 1,040

www.surf.nl/en/sram

#### **SURFsoc**

SURFsoc monitors and detects cyber threats and possible attacks on the institutional infrastructure, for example via a SIEM system. We share the knowledge that we acquire within SURFsoc with the institutions. That is how we increase information security within education and research.

Rates are on request.

www.surf.nl/en/surfsoc



#### **Data services**

#### **SURFsharekit**

SURFsharekit is a "repository as a service" for the sustainable storage and sharing of research publications, thesis products, and digital open and semi-open educational resources. This makes the materials findable and available via various platforms.

The rate is based on the number of employees (FTE) plus students (part-time student counts as 0.5 FTE). The rate per employee/student is EUR 0.81 per year, with a minimum of EUR 1,628 and a maximum of EUR 11,397 per year.

www.surf.nl/en/surfsharekit

#### edubadges

edubadges is the digital certificates platform for the Dutch education community. edubadges enable you to award students or workers with evidence of knowledge and skills they have acquired. An edubadge is issued electronically within a secure and trusted SURF platform.

For MBO edubadges is an additional service. For HBO and WO this service is in the basic fee Infrastructure.

Number of users	Rate per month
0-1,000	EUR 1,040
1,001-5,000	EUR 1,353
5,001-15,000	EUR 1,456
15,001-100,000	EUR 1,561

www.surf.nl/en/edubadges

#### **SURFeduhub**

SURFeduhub is the platform for sharing educational data between Dutch educational institutions. Safely and via open standards. For example, students can easily view the educational offerings of their own institution and those of other institutions, as well as timetable or study progress information.

For MBO SURFeduhub is an additional service. For HBO and WO this service is in the basic fee Infrastructure.

Rates are on request.

www.surf.nl/en/surfeduhub

#### **SURFdrive**

SURFdrive is a personal cloud service for the Dutch education and research. With SURFdrive your users can easily store, synchronise and share files in our secure and reliable community cloud.

There are two options. If you choose the option with up to 50 users and at some point you have more than 590 users, you automatically switch to the option with up to 750 users. This is more economical.

Number of users	Rate per month
Up to 50	EUR 187 + EUR 3.65 per additional user
Up to 750	EUR 2,337 + EUR 1.56 per additional user

We have agreed with universities that they will always purchase the second package.

www.surf.nl/en/surfdrive



#### **Research Drive**

Do your research teams need large storage quotas, and do they work collaboratively with other educational and governmental institutions or external private parties? Research Drive is a cloud-based shared-storage environment specifically designed for these requirements.

Option	Rate
Platform use - for purchased storage up to 20 TB <sup>1,2</sup>	EUR 13,351 per year
Platform use - for purchased storage of 20 TB or more <sup>2</sup>	EUR 20,540 per year
Platform use - for purchased storage up to 20 TB, Community edition <sup>3</sup>	EUR 8,216 per year
Storage	See Object Store
Disaster recovery	EUR 7.37 per TB per month
Community edition <sup>3</sup> Storage	See Object Store

<sup>&</sup>lt;sup>1</sup> The minimum purchase for Storage is 10 TB (with the exception of pilots and universities of applied sciences with up to 20 lectors).

<sup>2</sup> Can only be purchased in combination with Disaster Recovery.

www.surf.nl/en/research-drive





#### **Object Store**

Object Store provides a general purpose online storage service that may be used for storing large quantities of data (and is, among other things, the default storage environment for Research Drive). The service is ideal for storing various types of data, and has the ability to grow without restriction, while the data remains quickly and easily accessible. This service is available per TB, and you can purchase it per month.

Number of TBs	Rate per month
0-5	EUR 13.71
5-50	EUR 12.72
50-500	EUR 11.75
> 500	EUR 10.77

www.surf.nl/en/object-store

#### dCache

dCache is a storage system ideally suited for high-throughput data processing. The data in dCache are accessible via a variety of protocols, including WebDAV, and dCache supports various authentication systems. It offers a unique combination of scalability and speed: data can be moved transparently between disk (for fast access) and tape (long-term storage). This service is available per TB and can be purchased per month.

#### **Disk**

Number of TBs	Rate per month
0-50	EUR 13.70
50-500	EUR 13.35
500-1,000	EUR 10.22
> 1,000	EUR 7.37

#### Tape (double copy)

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The Community edition is intended for research groups whose institution does not have a central subscription; it offers no option for their own branding.

#### **Data Archive**

The Data Archive is the centralised location for data archiving and (long-term) storage, even in volumes running into the petabytes. The archive provides quick access to SURF's computing facilities.

This service is available per 10 TB and can be purchased per 5 years. An extension to a current contract has the same end date as the original contract.

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www.surf.nl/en/data-archive

#### Persistent Identifiers (PID)

Persistent identifiers (PIDs) ensure the findability of your data, now and always. PIDs are comparable to the ISBN numbers assigned to books. Even if the location or underlying infrastructure changes, the reference path remains intact. SURF offers the PID service in cooperation with the European Persistent Identifier Consortium (EPIC).

Component	Rate
Handle prefix request/registration	EUR 44 once
PID hosting service	EUR 449 per year
Handle prefix preservation	EUR 44 per year

www.surf.nl/en/data-persistent-identifier





Does your institution want to use iRODS to manage research data without its own management burden? The iRODS Hosting service enables you to make use of the high-quality data management facilities offered by iRODS, such as the secure sharing of data, metadata management, and workflow automation for the implementation of data management policies. In addition, iRODS Hosting offers access to various (online and offline) data storage facilities offered by SURF.

Component	Rate
Subscription for hosting, management & support	EUR 12,036 per year
Online storage	See Object Store and MS4
Long-term storage	See Data Archive

#### **LDAP** module

With this option, your iRODS instance will perform authentication and authorisation against an LDAP server. This can be your existing organisation LDAP, which can simplify user management for your iRODS instance.

Rate per instance per year	EUR 2,054

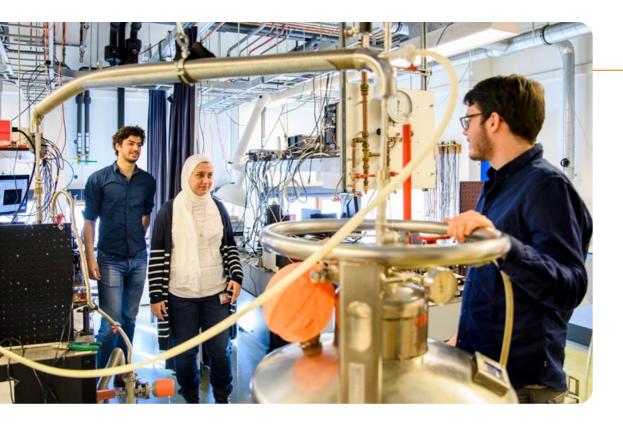
#### **Storage Tiering module**

With this option, you can deploy multiple storage resources more easily than if you only used bare iRODS rules. This gives you more control over how your data policy is handled in your iRODS instance.

Rate per instance per year	EUR 2,054

www.surf.nl/en/irods-hosting





#### **RDM Storage Scale-out**

Does your institution already use iRODS technology and do researchers need additional storage capacity for research data, or need long-term storage? With the RDM Storage Scale-out module for iRODS, they make easy and flexible use of large-scale data storage facilities at SURF such as online storage or Data Archive (other storage services on request). With this service they expand their storage space as needed, for example for storing (very) large data sets or data that is not actively used.

Component	Rate
Subscription for hosting, management & support	EUR 6,772 per year
Online storage	See Object Store and MS4 Block Storage HDD
Long-term storage	See Data Archive

www.surf.nl/en/rdm-storage-scale-out

#### **Yoda Hosting**

Researchers and research support staff use Yoda software to deploy iRODS in their daily Research Data Management work. A web portal and WebDAV interface allow for easier interaction with the underlying iRODS instance, guided by standardised workflows. With Yoda Hosting, SURF runs a Yoda instance for your institution, so you can offer the power of iRODS and the benefits of an easy user experience to your research groups.

Component	Rate
Subscription for hosting, management & support	EUR 26,000 per year
Online storage	See Object Store and MS4
Long-term storage	See Data Archive

#### **SRAM Module**

With this option, your iRODS instance will perform authentication and authorisation against SURF Research Access Management. In this way, you delegate user management to the researchers and research supporters themselves, so that they can organise their collaboration to best effect, even across multiple services.

Rate per instance per year	EUR 0
e per instance per year	EUR U

#### **LDAP** module

With this option, your iRODS instance will perform authentication and authorisation against an LDAP server. This can be your existing organisation LDAP, which can simplify user management for your iRODS instance.

Rate per instance per year	EUR 2,054	
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#### **Storage Tiering module**

With this option, you can deploy multiple storage resources more easily than if you only used bare iRODS rules. This gives you more control over how your data policy is handled in your iRODS instance.

Rate per instance per year	EUR 2,054	
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#### **SURF Data Repository**

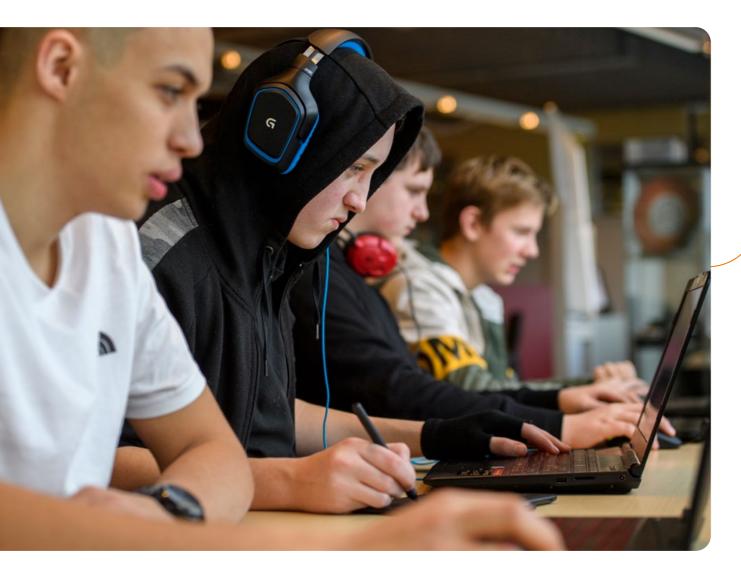
SURF Data Repository focuses on the secure storage, accessibility and retrieval of large datasets. Users can create new publications themselves via the website or have datasets annotated and published in a partially automated manner. An extension to a current contract has the same end date as the original contract.

This service is available per 10 TB and can be purchased per 5 years.

Rate per 10 TB, per 5 years

EUR 1,284

www.surf.nl/en/surf-data-repository





#### laaS

#### **SURFcumulus**

If you want to make lawful and secure use of cloud services provided by top suppliers, you should make use of SURFcumulus. SURF put out the tender, allowing your institution to use these services pay-as-you-go. We also monitor quality, security, and legislation on an ongoing basis and organise training courses.

#### **SURFcumulus and SURFcumulus Professional Services**

You pay the costs charged by the provider for the virtual machines used. In addition to these charges, you will pay a service contribution to SURF to cover administrative costs. The maximum amount of the service contribution is EUR 100,000 per institution per year.

Service level	Service contribution on the consumption costs
SURFcumulus	7%
SURFcumulus Professional Services	5%

#### **SURFcumulus Application Delivery**

Give your students and staff access to applications anytime, anywhere, while they are using their own devices. SURFcumulus Application Delivery helps to make education more flexible and at the same time takes the burden off your IT department.

www.surf.nl/en/surfcumulus

#### **HPC Cloud**

SURF's HPC Cloud compute infrastructure gives researchers complete control over their computing infrastructure, for themselves or their project team, via SURF Research Cloud. The research infrastructure can range from a single workstation to an entire cluster and is expandable as needed. Researchers can choose from a variety of operating systems and analysis software. HPC Cloud is housed in our own data centre.

You can purchase this service through an RCCS contract. Computing bundles can be purchased in advance and are valid for twelve months.

www.surf.nl/en/hpc-cloud

#### **Digital platforms**

#### edusources

edusources is the platform for digital (open) educational resources for Dutch education. With edusources, instructors, librarians and students have access in one place to a diverse range of digital educational resources. Educational resources are stored and made available within SURF's safe and reliable platform.

The use of edusources requires a repository. If you use our own repository service SURFsharekit for that, you pay a combined charge for edusources and SURFsharekit.

#### **Collaboration license**

Service	Rate per month
edusources	EUR 479
edusources + SURFsharekit	EUR 565

#### **Campus license**

Number of students	Rate per month	
	edusources	edusources + SURFsharekit
0-1,000	EUR 479	EUR 565
1,001-5,000	EUR 624	EUR 798
5,001-15,000	EUR 884	EUR 1,318
15,001-100,000	EUR 988	EUR 1,595

www.surf.nl/en/edusources

#### **HBO Kennisbank**

HBO Kennisbank ('HBO Knowledge Bank') contains more than 60,000 publications by professors, teacher-researchers and students at universities of applied sciences. They can be reused to improve one's own research or education. Users can also upload their own work in order to inspire others.

The fee is based on the number of employees (FTE) plus students (part-time students count as 0.5 FTE). The fee per employee/student is EUR 0.48 per year, with a minimum of EUR 1,067 and a maximum of EUR 12,809 per year.

www.surf.nl/en/hbo-kennisbank

#### **SURFspot customised functionality**

As an institution, you can make use of SURFspot credit for a group of employees and/or students via SURFspot. The users themselves order on SURFspot.nl with the credit that is linked to their account. SURFspot arranges the delivery and, as an institution, you will receive one invoice for all employees and/or students.

Rates are available on request.





#### **Kies Op Maat**

Students want tailor-made solutions when it comes to their studies, and studying outside their own institution makes this possible. Kies Op Maat ('Tailor-made Choice') offers a wide range of education from 29 universities of applied sciences and four universities. Students can easily register for a minor or course at another education institution.

Number of students	Rate per month
0-1,000	EUR 38
1,001-1,500	EUR 77
1,501-2,000	EUR 115
2,001-2,500	EUR 154
2,501-3,000	EUR 193
3,001-3,500	EUR 232
3,501-4,000	EUR 270
4,001-4,500	EUR 309
4,501-5,000	EUR 347
> 5,000	EUR 386

www.surf.nl/en/kies-op-maat





SURF Research Cloud is a portal in which researchers can easily build a virtual research environment. They can use preconfigured workspaces and datasets or add these themselves. Institutions, research communities, and suppliers can contribute to the functionality and catalogue of the Research Cloud by integrating their compute and data services.

#### **SURF Research Cloud service**

This service can be used free of charge in combination with an RCCS contract for SURF HPC Cloud or for a public cloud provider.

#### **SURF Research Cloud Development & Support Service**

This service enables institutions to view SURF Research Cloud as part of their own research infrastructure. This service offers joint further development of SURF Research Cloud based on the institutions' requirements, integration with the institutions' helpdesk, training courses, and an additional graduated discount on credits for HPC Cloud and public cloud.

Sector	Subscription per year
WO, UMC, research institutions, libraries	EUR 33,891
НВО	EUR 22,594
МВО	The first year is free - this is an exploratory year.

www.surf.nl/en/surf-research-cloud



#### Expertise, advice and training

#### **SURF Consultancy**

Researchers and IT managers can draw on our wealth of experience in IT solutions for research and IT infrastructure. We help you develop or improve your research application, data visualisation, machine learning projects or with the optimal set-up of your data or network infrastructure.

#### Rate 1: standard technical support

This concerns operational activities that fall within the standard services per service, such as support with setting up virtual machines on SURF Research Cloud/HPC Cloud, optimising batch scripts on Lisa and Snellius and basic support with visualisation and machine learning.

Rate per hour EUR 106

#### Rate 2: substantive support and expert consultancy

This concerns work for which specific expertise is required. These include software parallelisation for High Performance Computing (including GPU/accelerator parallelisation), code optimisation, iRODS consultancy, larger visualisation and machine-learning projects, consultancy for the introduction of a core network with MPLS and support for the introduction of two-factor authentication for students.

Rate per hour EUR 117

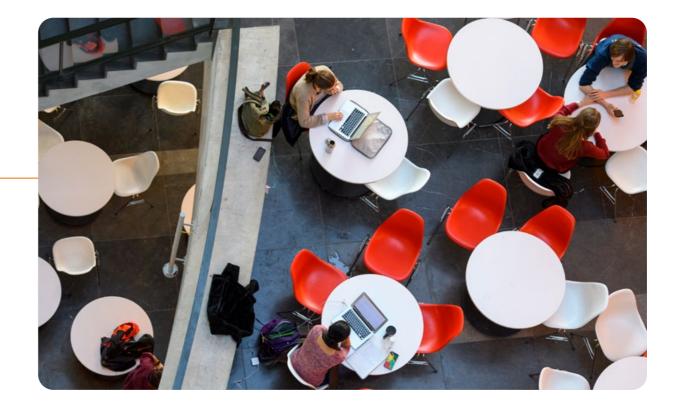
#### Training courses for research

SURF regularly organises hands-on system training courses for researchers and research support staff: online, at our offices in Utrecht and Amsterdam or at your educational or research institution. You can also include the training courses in the curriculum of your institution.

The full list of training courses can be found at <a href="https://www.surf.nl/en/training-courses-for-research">www.surf.nl/en/training-courses-for-research</a>

Length	1-12 participants	13-24 participants	25-37 participants	38-50 participants
2 hours	EUR 318	EUR 531	EUR 743	EUR 955
half a day	EUR 637	EUR 1,061	EUR 1,486	EUR 1,910
1 day	EUR 1,168	EUR 2,016	EUR 2,865	EUR 3,714
2 days	EUR 2,123	EUR 3,820	EUR 5,519	EUR 7,216

Customised training courses are available on request.





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#### SURF Cooperative Driving innovation together

SURF is the cooperative association in which Dutch research universities, universities of applied sciences, vocational schools, university medical centres, and research institutions work together to provide the best IT for education and research. We develop and provide reliable, state-of-the-art IT services, or purchase them centrally on favourable conditions. We collaborate on new, innovative applications of IT in education and research. And we come together to exchange knowledge, ideas and expertise. This keeps Dutch education and research at the top of the world.

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