UiT Norges
arktiske universitet

Storing research data

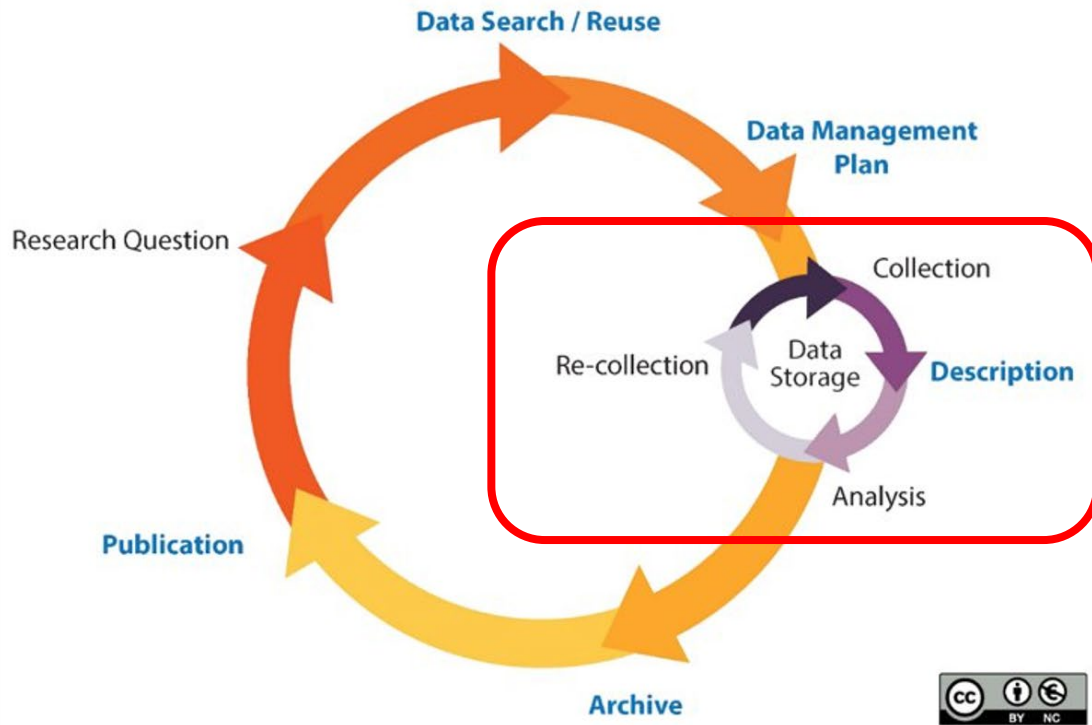Tromsø, 17. April 2022

Erik Axel Vollan, IT department

Huw Grange, University Library

Purpose

- Know UiT's classification rules and their implications for storing data
- Know the importance of backing up data
- Know of UiT's storage resources
- Know resources for
  - Sensitive data
  - Large amounts of data

Storing vs Archiving

Adapted original source:
The University of California, Santa Cruz,
Data Management LibGuide, Research Data Management Lifecycle, diagram,
viewed May 2, 2016 at <http://guides.library.ucsc.edu/datamanagement>

Storing
- Collecting
- Raw data
- Active data
  - Analysis and computations
- Safekeeping

Archiving
- Deposit in archives
- Publishing
  - Data made findable and reusable

UiTs guidelines for research data management:

UiT shall offer basic services for processing, storing, as well as archiving of research data, either centrally at the home institution or in other suitable, quality assured infrastructure for storage and/or archiving of data

Services for all users
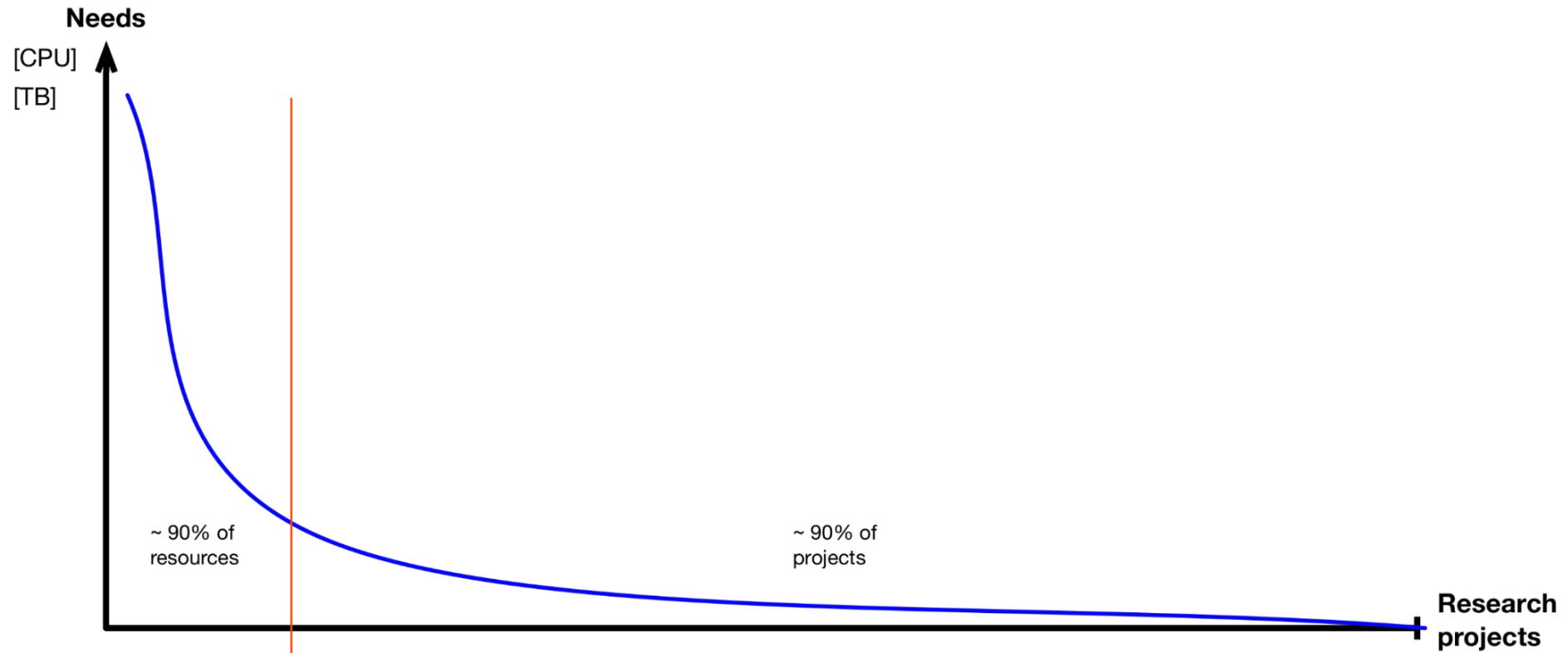
Credit: H. Eide, UNINETT Sigma2

3 main points of information security

- Confidentiality
  - Information is accessible only for users authorized for it

- Integrity
  - Information is protected from unauthorized deletion and manipulation

- Accessibility
  - Information is accessible to users when they need it

In practical terms

Data should be

- Classified according to confidentiality

- Stored in a system that protects against unauthorized change and deletion

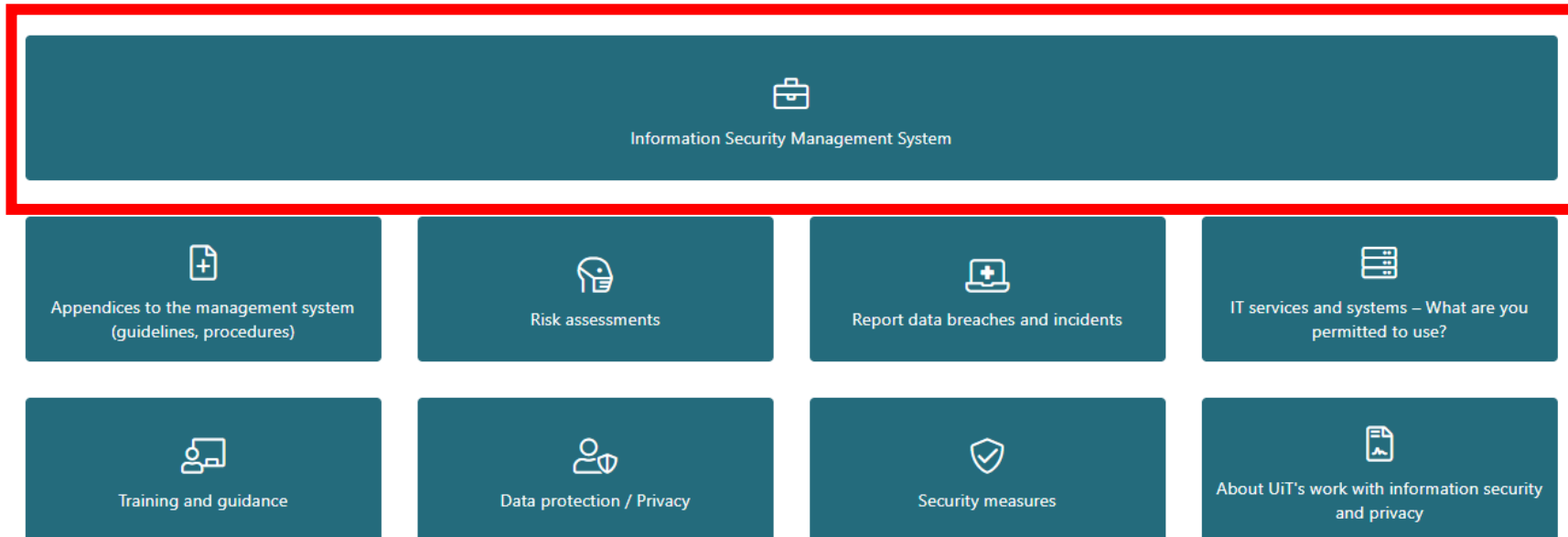- Stored on a backed-up system to prevent data loss

Classification

Information security and data protection at UiT

Norsk

UiT The Arctic University of Norway processes large volumes of information relating to research, education, dissemination og administration. It is crucial that we attend to the information security in a proper manner, not least safeguarding the integrity that UiT is reliant on as a research and education institution. This shall occur irrespective of whether the processing in question is physical or digital.
Do you wish to contact the Privacy and Information Security Office? Please send an e-mail to security@uit.no

Information Security Management System

Appendices to the management system (guidelines, procedures)

Risk assessments

Report data breaches and incidents

IT services and systems – What are you permitted to use?

Training and guidance

Data protection / Privacy

Security measures

About UiT's work with information security and privacy

Research data @ UiT

- Information must be classified. UiT Information Security Governance System Chapter 3
  - [Guidelines in Chapter 4](#)

- 4 classes:

Green	Yellow	Red	Black
Open	Internal use	Confidential	Strictly confidential

- The information owner is responsible for classifying

Criteria for classification classes

	Open

This information *can* or *must* be available to anyone without special access rights.

Most of the information UiT manages is in the Green (Open) class because of the purpose of the university's activities or instructions relating to transparency in acts, regulations and other documents regulating public administration and the university's activities. Information may be classified as Green even though it is not openly available to everyone.

Examples of such information are:
- a web page that presents a department or unit that is openly available on the internet
- study material for a course that is openly available, but which is marked with a given licence and/or copyright
- master's theses that do not need any protection
  - The faculty is responsible for assessing whether master's theses can/must be exempt from being made publicly available[3], and as such shall be placed in a higher class.
- research data that does not require any protection
  - the researcher is responsible for this assessment. For projects involving several researchers, the project manager is responsible.
- teaching materials that do not need any protection
  - The teacher is responsible for this assessment.

Please note that although information in this class can be available to everyone, it is not necessarily the case that everyone shall be able to *change* the information. The integrity of the information must be safeguarded by only allowing authorised users to change the information (see the description of the various integrity classes). Moreover, information classified as open can not necessarily be distributed or used for other than its intended purpose.

	Internal use

The information must have some degree of protection and may be available for both external and internal users, with controlled access rights. This class shall be used if it could cause a certain amount of harm to UiT or partners if the information becomes known to unauthorized persons. There is no statutory or internal requirement that the information shall be publicly available.

Examples of such information are:
- certain unfinished documents
- information that is exempt from being made publicly available
- marks/grades
- examination answer papers
- unpublished research data and research works
- unpublished proposals of research projects

	Confidential

Red ("confidential") is used if it will cause harm to public interests, UiT, businesses, individuals or partners if the information becomes known to unauthorized persons. The information must be controlled with strict access rights.

Examples of such information are:
- certain strategy documents
- confidential information
- certain special categories of personal data (formerly known as "sensitive personal data"), such as health data
- certain information of significance to building security and/or information security
- examination question papers before they are given
- certain types of research data and research works
- certain applications for research funding

	Strictly confidential

Black ("strictly confidential") is used if it will cause *significant* harm to public interests, UiT, businesses, individuals or partners if the information becomes known to unauthorized persons. The information must be controlled with the strictest access rights.

This category shall only be used when strictly necessary and always in consultation with the information security adviser at UiT.

Examples of such information are:
- large amounts of special categories of personal data (formerly known as "sensitive personal data"), such as health data
- health registers of a certain scope
- research data and research works of high economic value
- information about people with requiring special protection, e.g. "secret addresses"

Services allowed

https://en.uit.no/om/informationsecurity

Services allowed

System/service	Open/Green	Internal/Yellow	Confidential/Red	Stricktly confidential/Black	Data Processor
Canvas	OK	OK	Not approved	Not approved	Instructure
Ephorte	OK	OK	OK	OK	Not applicable
E-mail (Office 365)	OK	OK	Not approved	Not approved	Microsoft
EUTRO	OK	OK	OK	OK	Not applicable
Shared areas (F:\)	OK	OK	Not approved	Not approved	Not applicable
Felles studentsystem (FS)	OK	OK	Not approved	Not approved	Sikt
Forms (Office 365)	OK	OK	Not approved	Not approved	Microsoft
Home drive (H:\)	OK	OK	Not approved	Not approved	Not applicable
Mediasite	OK	OK	Not approved	Not approved	Sikt
Nettskjema / sikkert Nettskjema	OK	OK	OK[1]	Not approved	UiO
OneDrive for Business (Office 365)	OK	OK	OK[2]	Not approved	Microsoft
Panopto	OK	Not approved	Not approved	Not approved	Panopto
Request Tracker (RT)	OK	OK	Not approved	Not approved	Not applicable
Sharepoint (Office 365)	OK	OK	OK[2]	Not approved	Microsoft
Stream (Office 365)	OK	OK	Not approved	Not approved	Microsoft
Sway[5] (Office 365)	OK	Not approved	Not approved	Not approved	Microsoft
Teams (Office 365) - files	OK	OK	OK[2]	Not approved	Microsoft
Teams (Office 365) - meetings	OK	OK	OK[3]	Not approved	Microsoft
TopDesk	OK	OK	OK[6]	Not approved	TOPDesk
Tjeneste for sensitive data (TSD)	OK	OK	OK	OK	UiO
Yammer (Office 365)	OK	Not approved	Not approved	Not approved	Microsoft
WiseFlow	OK	OK	OK[4]	Not approved	UNIwise
Zoom	OK	OK	Not approved	Not approved	Sikt

You don't want to experience this

Research data @ UiT
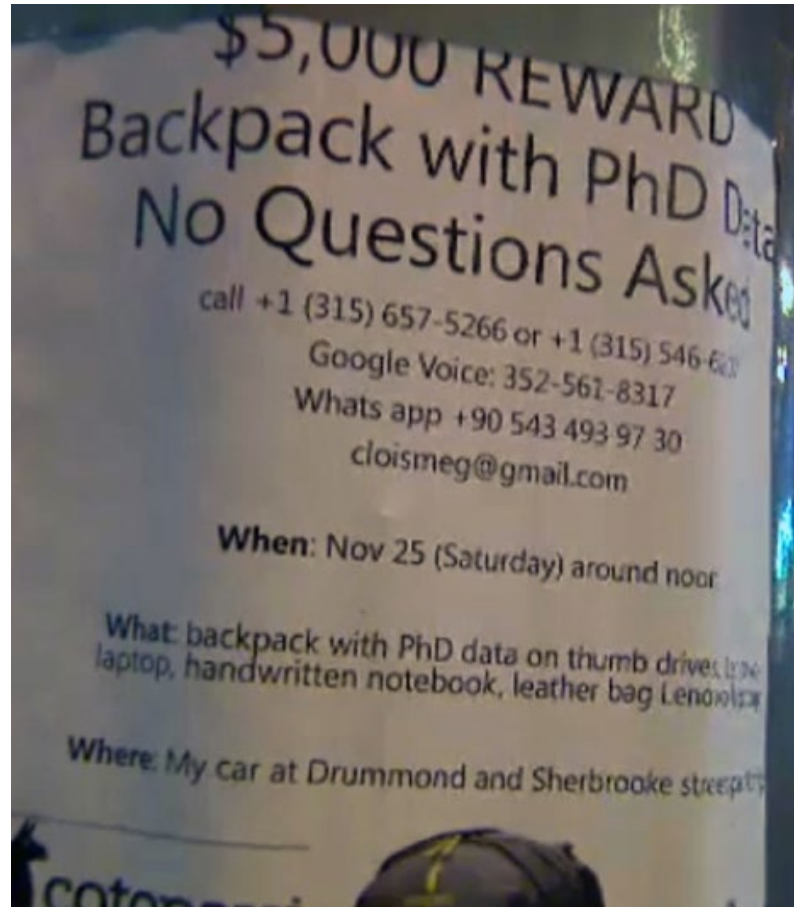
- Integrity
- Availability
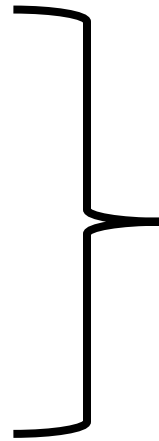
Store data on a secure backed-up system

Office 365

- Office 365 is UiT's primary collaboration and storage tool

  - Departmental shared disks are being moved to Teams/SharePoint
  - The home folders have moved to OneDrive

Office 365 for research data

Teams/SharePoint – groups and projects

OneDrive – personal storage. NB!! Is deleted when users leaves UiT!

Office 365 lets you share data

- Users you are sharing with must have an Office 365 account and can be invited as guests

- You administer sharing yourself
  - ITA can help you

- To send (large) files: Sikt Filesender
  - https://filesender.sikt.no/

M365 mer info:

- https://en.uit.no/it-brukerstotte/digitalarbeidsplass

Digital arbeidshverdag

Store deler av arbeidet til en UiT-medarbeider eller student, foregår i dag digitalt. Arbeidsmiljøet handler om hvordan vi planlegger, organiserer og gjennomfører arbeidet vårt. Det er derfor viktig at din digitale arbeidshverdag er rigget på en slik måte at det bidrar til et godt arbeidsmiljø for deg og dine kollegaer eller medstudenter. Vi tilbyr en rekke tjenester og verktøy for å fremme samarbeid og samhandling knyttet til ditt arbeid ved universitetet. Vi oppfordrer alle til å bruke serviceportalen (Topdesk), hvor du finner oppdatert informasjon om UiTs tjenester og kurstilbud i en rekke samhandlingsverktøy.

Møtevett/ møtekultur	Min digitale arbeidsplass	Min digitale arbeidshverdag	Digitale verktøy

Hvordan du planlegger og organiserer arbeidet ditt digitalt, vil påvirke både deg og dine kollegaer.

Å lage seg gode arbeidsvaner for egne notater, hva du bruker de ulike verktøyene til og hvordan du systematiserer arbeidsoppgavene, vil påvirke eget stressnivå og arbeidsglede.

Se følgende artikler/nettsider om hvordan du kan organisere din digitale arbeidshverdag:

- Her finner du lenker til kunnskapsartikler (KI) for blant annet M365 appene, VPN, Citrix, To-faktor innlogging osv.
- Hvordan opprette samhandlingsarena digitalt (Teams)?
- Tips til samskriving i Microsoft/ OneDrive/word osv finner du her
- Microsoft sin modul Viva Insights gir deg tips og hjelp til hvordan du kan jobbe mer effektivt
- Her finner du en oversikt over hvilke kurs som finnes for å få kunne skape en god digital arbeidshverdag. Du kan også bestille kurs.
- Her finner du opptak fra kurs i M365 sine ulike apper. Du kan velge ut temaer innenfor hvert kurs.
- Se informasjon om møtevett ved UiT for god digital, hybrid og fysisk møtegjennomføring.
- Idag er det mange apper og notifications iløpet av arbeidsverdagen, her finner du tips på hvordan du kan sette opp innstillinger for hensiktsmessig varsling/ notifications.
- Her kan du lese mer om hvordan ha en sikker digital arbeidshverdag: Informasjonssikkerhet og personvern | UiT
- Det er lett å bli sittende lenge foran skjermen iløpet av en dag, husk at *den beste arbeidsstillingen, er den neste*, les mer om det her

ITA kan ikke bistå med feilsøking og utbedringer mtp. nettverk og internett i ansattes private boliger, det gis kun vanlig support på UiT PC/Mac, kontoer/tilganger, brukernavn/passord og støttede apper etc.

Du kan abonnere på IT driftsmeldinger fra UiT: Påmelding / Avmelding

Other local resources

- CLARC – Long term storage
  - Stores data in UiT's cloud based datacenter in Microsoft Azure
  - Service levels:
    - Hot
    - Cool
    - Archive

  - Cost model:
    - Cost for projects   (350/200/25) NOK/TB/Month
    - Base Quota 5000 NOK/år per project

  - More info CLARC i TopDesk

My desk drawer is not unique:

Store your data in central servers

- UiT quite literally has drawers full of research data

- We can offer you a safer storage option in centrally backed-up systems

mostphotos.com

Instrument/laboratory data

- The challenge:
  - Instruments live much longer than their control PCs
    - Software may not run on modern operating systems and can not be updated.
    - PCs must be restricted to closed networks
  - Users transport data using USB memory sticks

- ITA service for automatic central storage from instruments
  - Storage from several instruments
  - Remote Desktop access to instruments

Data with special needs

- Large amounts of data

- Sensitive data

Projects with <u>LARGE</u> storage needs
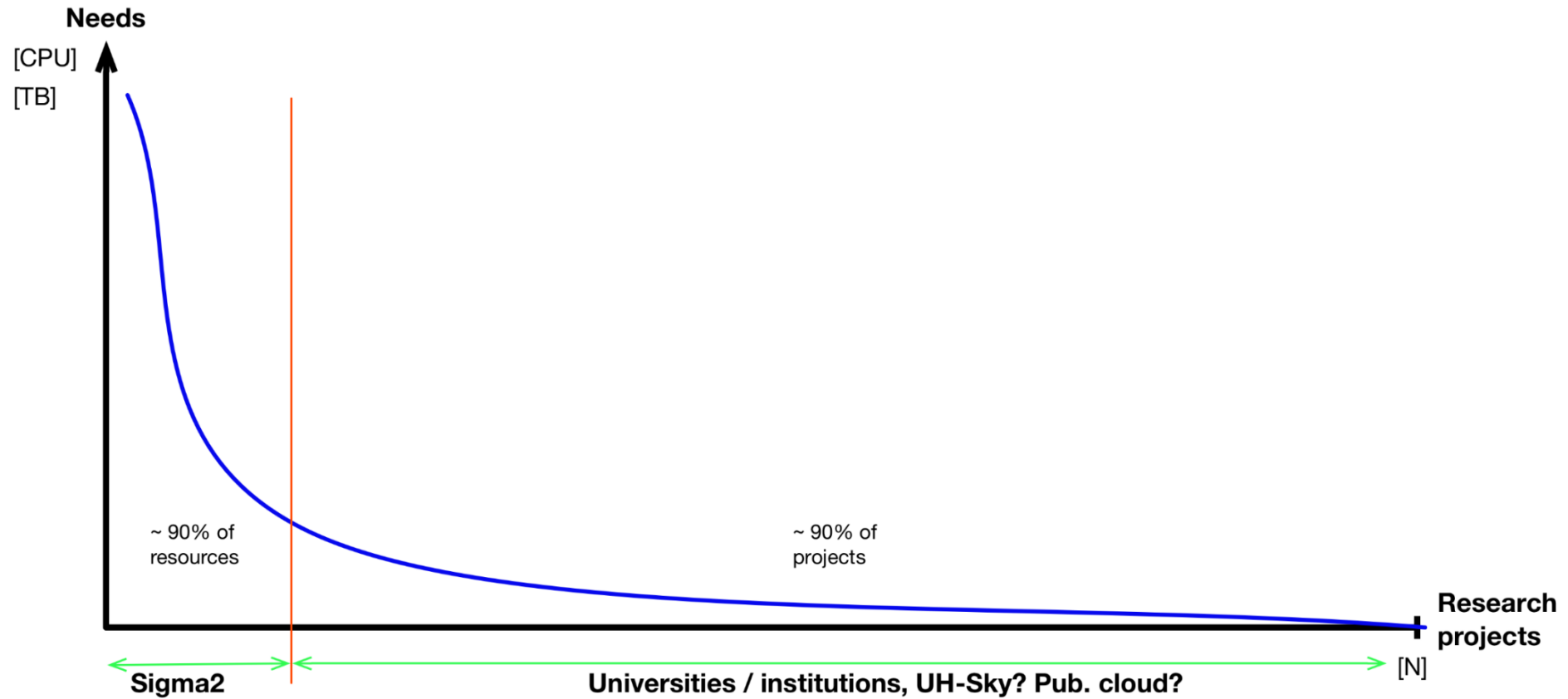
Credit: H. Eide, UNINETT Sigma2

sigma2

National e-infrastructure for high-performance computing and storage

- Supercomputers in Tromsø og Trondheim

- Storage through **NIRD** - **N**ational e-**I**nfrastructure for **R**esearch **D**ata
  For storage needs from 10TB and above

- Has its own resource allocation procedures
 - More info: https://www.sigma2.no/

Storing sensitive data

Red data can be stored in Office 365 on 2 conditions

1. Your account must be set up with 2-factor authentication – all UiT accounts are

2. Data must be protected with Azure Information Protection (AIP)
   - Built in tool in Office programs (Word, Excel)

   - Can protect other file formats through a manual procedure
     - Requires decrypting before you can work on file

Azure Information Protection

- Built in tool in Office programs like Word, Excel
- Encrypts data according to classification
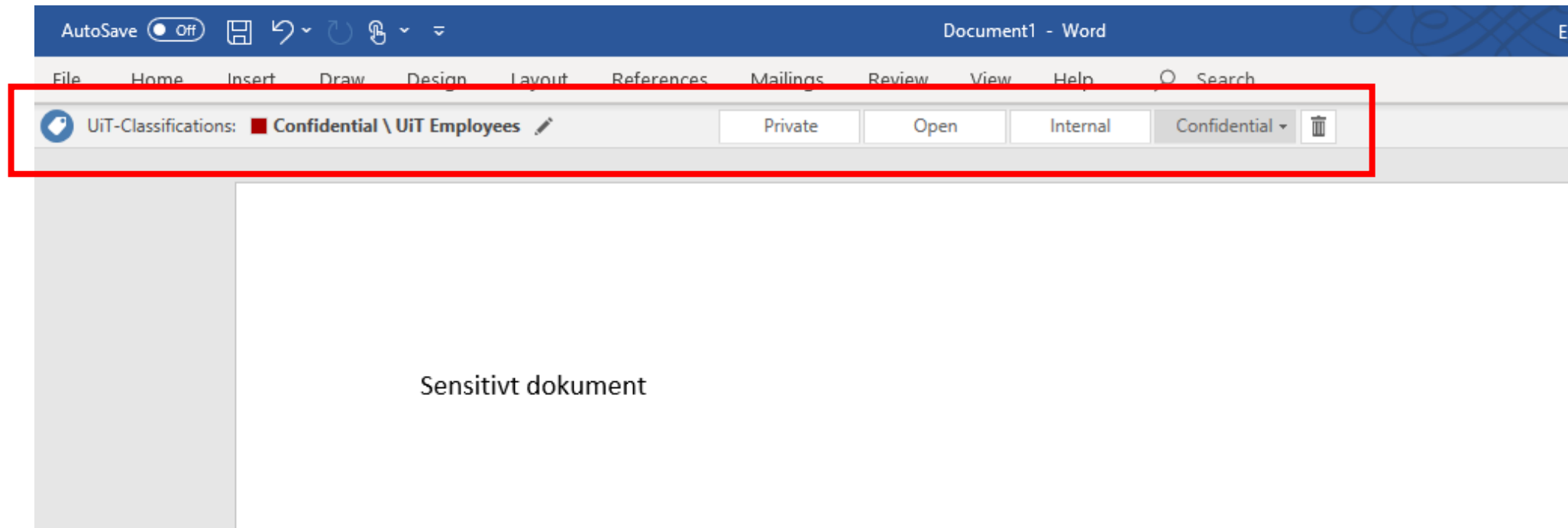
Services for Sensitive Data

- UiT buys this service from UiO

- Closed environment for storage and analysis
  - Statistics
  - NVIVO

- Very high level of security
  - Strict controls of data import and export
  - All projects totally isolated from other projects

- Nettskjema can send encrypted forms directly to TSD

- Smartphone Dictaphone app can send directly to TSD

- For more info : [TSD web pages](#)

- Cost for projects: NOK 15000 / year

- UiT ITA can give limited local support.

UiO : University of Oslo

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‹ **Research**

Services for sensitive data (TSD)

What is TSD?

- provides a platform for researchers at UiO and other public research institutions
- can collect, store and analyze sensitive research data in a secure environment
- secure project area
- integrated solution for collecting sensitive data (Nettskjema)
- access from anywhere in the world

→ **More about TSD**

Getting started

- Available to researchers and master students at UiO.
- Collaborators and externals can also get access.
- See TSD prices

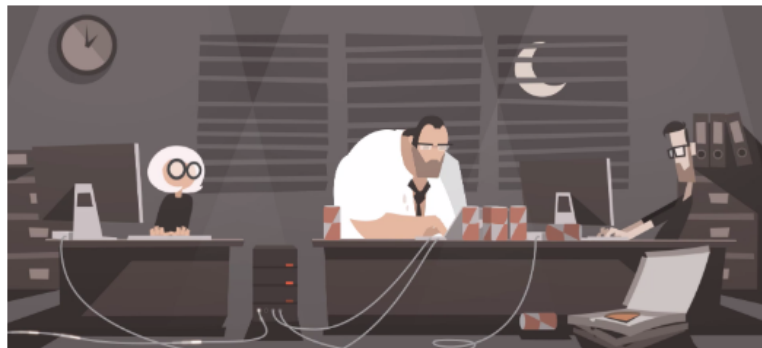[**Get started with TSD**   →]

What can be stored in TSD?

🟢 🟡 🔴 ⚫ Up to black data

Go directly to

[**Login to TSD Windows VM**   →]

[**Login to TSD Linux VM**   →]

[**Data import and export**   →]

Video about TSD

ITA work in progress

Cloud-based services – the future of ITA at UiT

      Applications and storage – increased flexibility and dynamics

      Cloud-based student labs –in use

      Departmental shared drives moving to SharePoint

Better tools for red data

      HUNT Cloud will be available for UiT users

      Remote Desktop-tjeneste for red data – «TSD Light»

Take home message

- Know your data and classify them accordingly
- Store your data with backup on an appropriate system

More info and help

UiT Research Data Portal:
https://uit.no/forskningsdata

E-mail:
researchdata@hjelp.uit.no

Evaluation

- We are constantly working to improve the content of our webinars. Feedback from you will be of great help to us.

- Here: Skjema.uio.no/ubevalno

- Date: 16.4.2023

- Course code: Research data

researchdata@hjelp.uit.no

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