

# Digital Technology Infrastructure Guide for School Leadership

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## Introduction to this Guide

Oide-TiE have developed a Digital Technology Infrastructure (DTI) Guide for schools which is written specifically for school leadership, including principals, deputy principals, the digital learning team and the DTI coordinating teacher. The purpose of the guide is to present Digital Technology Infrastructure in a non-technical manner and to show how it can support schools in achieving their teaching and learning objectives.

Given the increasing complexity of Digital Technology Infrastructure (DTI) in schools, it is critical that a well thought out, planned approach is in place. Schools that have high quality external IT providers in place benefit greatly from this model, as IT providers can focus their technical expertise on the technical areas, such as having a high quality, robust and reliable DTI in place, and this enables schools to focus their expertise on improving teaching and learning areas.

Selecting suitable Digital Technology Infrastructure that complements a schools Digital Learning Plan can have a very positive impact in all aspects of learning. However many schools lack confidence in making decisions regarding DTI as they think they don't have the necessary technical expertise to do so. Schools may think that they need to understand technical details to a reasonably high level before making decisions and this is often a barrier for them in making progress.

### Key Points:

- Using the approach outlined in this guide schools can have a modern fit for purpose Digital Technology Infrastructure to support teaching and learning in their school.
- No DTI technical knowledge is required for schools to read and understand this document as it is written in non-technical 'plain english'.
- It is possible for schools to manage Digital Technology Infrastructure regardless of whether they have technical expertise or not.

## New Digital Strategy, Digital Learning Framework (DLF), DL Planning

This guide supports the objectives of the Department of Education's 'Digital Strategy for Schools to 2027', specifically 'Pillar 2' - DTI Infrastructure, in relation to DTI Infrastructure.



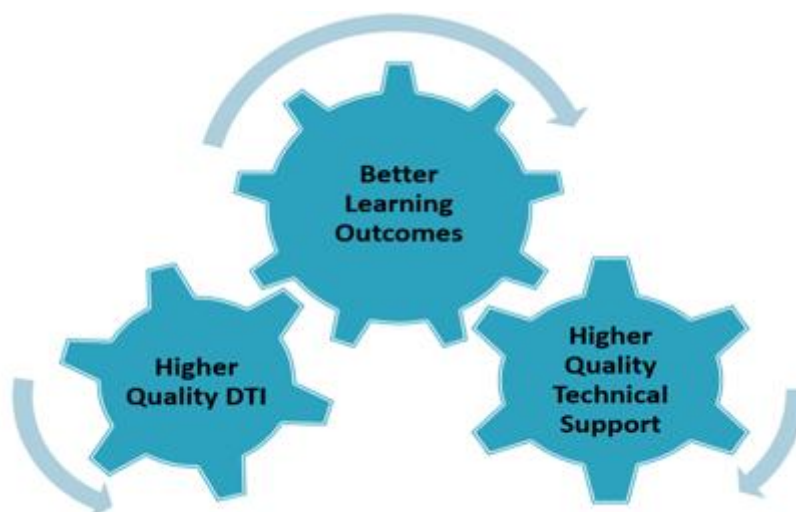
Information on the Digital Learning Framework (DLF) and how it can be used to embed DTI into teaching, learning and assessment can be found at the Digital Learning Planning website, <https://www.dlplanning.ie/>. The website helps schools to plan for improvements in digital learning. It supports the Digital Learning Framework, mapping standards and statements of effective practice to good practice video exemplars. It helps school leaders understand how technology can support the learning process.

In the same way as a school needs to have a Digital Learning Plan in place to guide their approach to teaching, learning and assessment, they should also have a complimentary Digital Technology Infrastructure Plan in place so that their Digital Technology Infrastructure priorities compliment and support their Digital Learning plan.

### Benefits of Digital Technology Infrastructure

The benefits of a high quality, robust Digital Technology Infrastructure are:

- It supports improved learning outcomes
- It allows teachers to focus on teaching and learning rather than on technology issues
- It facilitates school leadership and digital learning teams to focus on teaching and learning
- A high quality, robust DTI requires lower levels of technical support, leading to cost savings
- Using Oide-TiE recommended minimum technical specifications helps improve the quality of DTI
- It allows more time for schools and IT providers to focus on preventative maintenance & process improvement rather than on 'firefighting' ongoing issues
- It facilitates better working relationships with IT providers, which is less stressful for all parties.



## Improving the Quality of Digital Technology Infrastructure

**Overall Vision:** Improving the quality of Digital Technology Infrastructure (DTI) and technical support for all schools, as this is the most effective way for DTI to support teaching, learning, assessment as well as school administration.

### Oide-TiE support schools in managing DTI by providing:

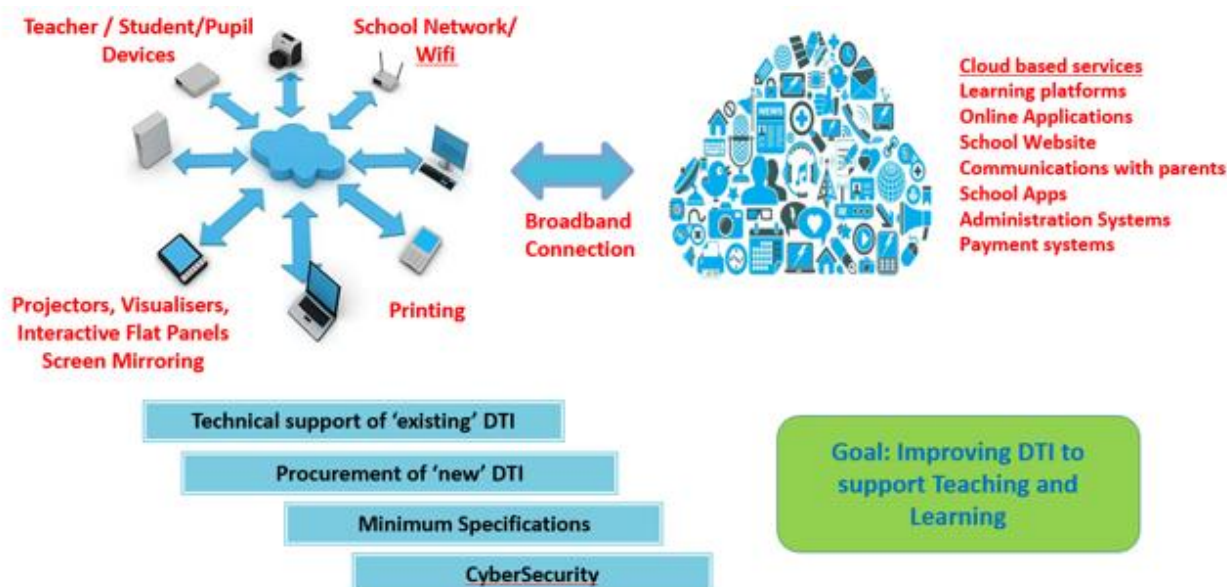
- Technical guidance to schools on all aspects of Digital Technology Infrastructure
- Recommended minimum technical specifications and templates which can be used by schools when specifying the DTI they require from IT providers
- Technical advice and guidance to schools when they are evaluating proposals from IT providers
- Supporting existing procurement frameworks for Windows PCs & Laptops, iPads, Projectors, Interactive Flat Panels
- Technical guidance on other areas such as cybersecurity, technical support and new school builds

### Oide-TiE Digital Technology Infrastructure Support Matrix:

The following table provides a summary of the advice, technical specifications, technical templates, technical advice on evaluation, and frameworks supported by Oide-TiE.

Digital Technology Infrastructure areas	Advice and Support	Technical Specifications	Technical Specification Templates	Technical Advice on Evaluation	Procurement Framework in place
Laptops, Desktops (Windows devices)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Chromebooks	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	No
iPads	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
School Wifi	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	No
Schools Networks	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	No
Projectors	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Interactive Flat Panels (IFPs)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Managed Print Service (MPS)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	No
Telephone Systems (VoIP)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	No
Cloud based back-up system	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	No
Technical Support	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	No
Learning Platforms / Licensing	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	No
Data Management / CyberSecurity	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	No
Other Specific Areas (eg Servers)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	No
Digital Technology Infrastructure Audit	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	No

## Overview of Digital Technology Infrastructure



The Digital Technology Infrastructure in a school consists of a range of technologies to support teaching, learning, assessment and administration, as shown here.

## Questions school leadership should ask regarding Digital Technology Infrastructure

In order for schools to improve their Digital Technology Infrastructure (DTI) they need to review their current situation. The following is a checklist of questions that schools should be asking:

- Does the existing DT infrastructure meet school teaching and learning needs?
- Is there a high level of satisfaction among staff with school DT infrastructure?
- What technical infrastructure issues are impacting teaching and learning?
- What are the current top priority infrastructure issues that need to be resolved?
- Are these recent issues or have they been ongoing for a while?
- Has the school tried to resolve these issues?
- If the issues remain unresolved for a while, has the school sought support from external parties or from Oide-TiE technical support via our support service at [ictadvice@oide.ie](mailto:ictadvice@oide.ie)

**Regarding 'Technical Support' the following is a 'review checklist' of questions that schools could ask:**

- Does the school have a suitable technical support provider in place?
- If not is the school seeking a new technical support provider?
- Does the existing model of technical support meet school needs?
- Do school leadership have a high level of confidence in the current technical support provider(s)?
- Do teachers have a high level of satisfaction in the current technical support provider(s)?
- Do technical support provider(s) have the necessary high quality technical expertise in the relevant areas to support the school?
- Does the IT provider manage technical support in a professional manner?
- Do they have a strong customer focus, and treat the school as a valued customer?
- What technical support issues are negatively impacting teaching and learning?
- Are these issues ongoing or are they recent issues?
- Has the school tried to resolve these issues?

- What are the current top priority technical support issues that need to be resolved ?
- If there is a low level of confidence in the technical support provider, has the school considered changing to a new provider?

### Improving and simplifying Technical Support

The objective should be to improve technical support, but also to simplify how it is managed.

The following is an overview of the differences between the 'reactive' and 'preventative' models of technical support, which show that the goal for each school should be to have a preventative model of technical support in place.

#### Reactive Model



- **Reactive, fire-fighting, 'break-fix' only**
- **A low-medium level of technical expertise**
- **Ad-hoc, unplanned**
- **Lack of process (logging, tracking)**
- **Poor communications, vague, lacking detail**
- **Expensive, unclear billing**
- **Poor track record**
- **Stressful, poor relationships, lack of trust**

#### Preventative Model



- **Strategic, planned, proactive approach**
- **Preventative maintenance**
- **Strong technical team and expertise**
- **Clear processes (logging, tracking)**
- **Good verbal and written communications,**
- **High quality track record with other schools**
- **Good value for money, itemised billing**
- **Strong relationships, high level of trust, less stressful**

Oide-TiE has developed a 'Technical Support Guide' for Schools. In this guide it is recommended that schools carry out an Audit of DTI in the school. A template Request for Quote (RFQ) for Technical Support, including a DTI Audit has been provided in the guide. This guide is available on our Oide-TiE website at: <https://www.oidetechnologyineducation.ie/technology-infrastructure/technical-support1/>



Regarding 'Data and Cybersecurity' schools need to be asking what measures they have in place to protect school data.

- What would be the impact of a cyberattack/data breach/data loss on the school?
- Has the school a plan in place to prevent or reduce the impact of loss of school data?
- Unless cybersecurity measures have been put in place, a cyberattack could potentially cause a loss of important school data, including personal data.
- Resulting from GDPR, if there is a data breach or a loss of personal data, there is a legal requirement on the school to inform the Data Protection Commission (DPC).
- To support schools in understanding and addressing cybersecurity Oide-TiE has developed a 'Cybersecurity Guide' for schools, which is available on our website at:  
<https://www.oidetechnologyineducation.ie/technology-infrastructure/data-security/>

## What are the main Digital Technology Infrastructure issues affecting schools?

Based on feedback from schools the following comments and questions are representative of the key Digital Technology Infrastructure issues that arise in schools.

*What type of student/pupil **devices** are suitable for schools?*

***Student/Pupil devices** cannot consistently connect to the internet, what could be the problem?*

*We're concerned that **our IT support provider doesn't have the technical expertise** to resolve problems, what should we do?*

*Our **Projectors** are fading Do we need new ones or can they be upgraded?*

***Accessing the internet is slow in some school areas**, could this be a WiFi problem?*

*Is **Managed Print Services** a better approach to having multiple printers in the school?*

*What **type of Interactive Flat Panels (IFPs)** are suitable for our school?*

*What **'technical' supports** are available from Oide-TiE*

*We're concerned about **cybersecurity**, How should we **protect important school data**?*

## Roles and Responsibilities in relation to DT Infrastructure

In relation to DT Infrastructure and schools there are a number of distinct roles and responsibilities, involving staff within the school, as well external parties. The key roles and responsibilities in relation to Digital Technology Infrastructure are summarised in the following table, and are classified as being either technical or not. In smaller schools the Principal may have a number of roles, including that of ICT coordinating teacher.

DTI Roles	Responsibilities regarding DTI	Technical Role (*)
<b>School Principal</b>	Provide overall leadership and priorities to all parties, overall decision maker, funding approval, non-technical role	No
<b>Deputy Principals, Digital Learning Team, ICT Coordinating teacher</b>	Support Principal leadership, provide input regarding priorities, may involve some technical responsibilities, where this capacity exists within a school	Where capacity exists
<b>IT Providers</b>	Technical role, respond to school priorities and requests, provide technical solutions based on schools priorities	Yes
<b>Oide Technology in Education - Digital Technology Infrastructure Team</b>	Provide objective technical and non-technical advice and guidance to schools, respond to school priorities and requests	Yes
<b>Other</b>	As may be necessary	

(\*) Some schools may have technical IT expertise within their staff, for example where a staff member may have IT qualifications, worked in IT, or has a particular interest in technical aspects of IT, however in general most schools don't have this level of expertise.

### Technical Support – Split of activities between school and IT providers.

It makes good sense that technical support is divided between activities that could be carried out by school staff, and activities that are carried out by IT providers. The table below provides some examples.

Examples of Technical Support activities that could be carried out by school staff, where capacity exists to do so	Technical Support activities which are typically carried out by IT providers
<b>Basic troubleshooting</b> regarding a wide range of situations where problems occur including <b>broadband</b> . Carrying out activities as directed by the Schools Broadband Service Desk.	<b>Detailed troubleshooting</b> regarding a wide range of situations where problems occur
<b>Checking cabling</b> where issues occur. <b>Double-checking that problems exist</b> before they are escalated to IT providers	<b>School Network</b> troubleshooting, network upgrades, Network segmentation using VLANs; WiFi troubleshooting; IT upgrades and configuration changes
Ensuring that school <b>Anti-Virus software</b> is up to date and that scanning runs are being run regularly outside of core school hours	<b>School Server</b> related issues. <b>Firewall</b> related issues. <b>Updating/re-configuration of network, WiFi, server, firewall etc</b>
Regular checks that <b>software is up to date</b>	<b>Security checks</b> on devices, network and WiFi
Basic level of support for <b>Printers</b> , checking power and cabling, error codes, paper blockages, toner cartridges, consumables	<b>Managed Print Services (MPS)</b> . Second level support on Printers. <b>Remote monitoring of DTI</b>
Basic level of support for <b>Projectors</b> , checking power and cabling, error codes, lamp unit. Facilitating remote access (RA) for IT providers	<b>Second level support on Projectors.</b>
<b>First level support</b> for a number of agreed technical support activities.	<b>Second level support</b> for all agreed areas.
Updating content to the <b>school website</b>	Ensuring school website is securely hosted, backed up, and software is up to date

## Objectives for Digital Technology Infrastructure in each area

Having clear objectives for each DTI area helps clarify its purpose. The following table provides a summary of the objectives for each area.

DTI Area	Objective specific to this Digital Technology Infrastructure (DTI) Area
School Network, including local firewall	The school network is the 'internal connectivity backbone' for all other ICT infrastructure within the school. A reliable, future proofed school network is critical.
IT Cabinets, Cabling	Well organised, tidy, well maintained and professional set up will reduce IT issues
Network Diagram	This helps the school better understand their school network
School WiFi	WiFi is required throughout the school so that teachers and students can access online content from anywhere. A reliable, future proofed WiFi system is critical.
Teacher Computing Devices	Teachers devices need to be fit for purpose to support high quality teaching and learning outcomes
Student Computing Devices – which are owned by the school	Suitable devices need to be available to meet the learning needs of students throughout the school day
Learning Platform set up and configuration	A suitable Learning Platform is required to meet teaching and learning objectives
School Projectors, Interactive Panels, Visualisers (Audio Visual)	High quality technology for 'Presenting in the Classroom' is critical in classrooms so that teachers/students can present high quality engaging content
School Server (if applicable)	School Server may be required to support specific IT activities
Printing in the school	A high quality Managed Print Service (MPS) helps support teaching and learning
Data Backup and restore process, Cybersecurity / Data Management review	Ensuring that school data is protected from a range of risks including cyberattack, equipment failure, and other related data loss risks
Anti-Virus (AV) Software	Anti-Virus software for Windows devices helps protect devices from 'malware' attack

## Recommended minimum technical specifications

Having recommended minimum specifications for each Digital Technology Infrastructure area has many advantages for schools. The following table provides a summary of the Oide-TiE recommended minimum technical specifications in each area.

Digital Technology Infrastructure Area	Summary of Recommended Minimum Technical Specifications in each area
School Network, including local firewall	Gigabit Ethernet throughout the school; No daisy-chaining of switches, Ethernet LAN cable runs not to exceed 100Metres; Fibre between buildings; Firewall set-up/configuration to be reviewed; Network segmentation / VLAN structure is recommended where appropriate
IT Cabinets, Cabling	General cabinet and cabling areas to be organised, tidy, with clear labelling for equipment, switches, cables, patch panels
Network Diagram	A school network diagram to be provided
School WiFi	A modern centrally controlled (ideally cloud based) WiFi system; Schoolwide coverage; Separate SSIDs to be in place for Admin, Staff, Students, Guests
Teacher Devices	Teacher devices to be checked to ensure they are fit for purpose and up to date ; Windows devices should be a minimum of Windows 10 Professional, 8GB memory; SSD Drive of minimum 512GB; Specs provide for Chromebooks and iPads/Apple devices
Student Devices – which are owned by the school	Student devices to be checked to ensure they are fit for purpose and up to date; Windows devices should be a minimum of Windows 10 Professional; 8GB memory; SSD Drive of minimum 256GB ; Specs provide for Chromebooks and iPads/Apple devices
Learning Platform	Learning Platform set up and configuration to be reviewed; Recommendations to improve processes to be outlined to the school
School Projectors, Interactive Panels, Visualisers (Audio Visual)	Projectors and other AV equipment review to be carried out and any recommendations provided
School Server (if applicable)	Server to be set up securely to reduce risk of cyberattack; Server hardware to be checked to ensure it has the resources to support school demand; Server software to be up to date; Server backup to be reviewed.
Printers	Printer review to be carried out and any recommendations provided. A high quality Managed Print Service (MPS) helps support teaching and learning
Data Backup and restore process (Cloud service to be recommended)	Data Backup set up and configuration to be reviewed; Recommendations to improve processes to be outlined to the school
Cybersecurity Review, Data Management review	Cybersecurity set up and configuration to be reviewed; Recommendations to improve processes to be outlined to the school
Anti-Virus (AV) Software	Anti-Virus software for Windows devices to be checked to ensure it is licenced, up to date and fit for purpose, and that anti-virus updates are happening as planned
For more detailed specifications	More detailed can be accessed at <a href="https://www.oideotechnologyineducation.ie/technology-infrastructure/">https://www.oideotechnologyineducation.ie/technology-infrastructure/</a>



## How can schools check the quality of their Digital Technology Infrastructure?

- How can schools know if their DTI is fit for purpose, and meets minimum technical specifications
- If everything seems to be working, is that sufficient ?
- Schools need to involve an expert IT provider to check their infrastructure
- Even if everything 'seems to be working OK', there may be 'hidden' issues
- Infrastructure instability can result from factors such as increased usage/demand, degraded performance, external factors, undiagnosed problems, configuration errors, out of date software, hardware issues, increased cybersecurity threats etc.,
- A infrastructure audit is the Oide-TiE recommended process to review/check the status of DTI
- The audit is necessary to ensure infrastructure stability and that it meets minimum technical specifications
- Infrastructure audits can be carried out on certain areas of DTI, for example on the network and WiFi areas, however ideally it is best to have a full audit, as issues may not become clear if only certain areas are being audited.
- If a cybersecurity infrastructure audit was being carried out by an IT provider, they would need to review all infrastructure areas which relate to securing data in the school. They could involve network configuration, firewall, WiFi, school server, data storage and data backups, cloud based services, as well as all office, staff and student computing devices.
- DTI audits need to be carried out by IT provider(s) with the relevant levels of technical expertise, and who have a high quality track record with schools.

## Example of Digital Technology Infrastructure (DTI) Audit Summary Report

This example shows a one page summary overview from a typical DTI audit report.

A one page summary of costed recommendations is provided to the school by the provider.

Digital Technology Infrastructure (DTI) Audit: Summary Checklist	Fit for purpose	Minor upgrade	Needs software upgrade	Significant upgrade	Not fit for purpose	Further investigation may be required	Urgency / Priority	Notes: Details of recommended changes	Estimated Cost
School Network				X			P2	5 switches need upgrade to 1Gbps	
School Wifi			X	X			P1	WiFi APs need to be upgraded	
Teachers Devices						X	P1	Six teachers devices need upgrade	
Student devices						X	P3	A number of options provided	
Learning Platform	X					X		Microsoft 365/OneNote	
Software Licensing						X	P2	Review Oide-TiE Licensing Guide	
Projectors	X							All projectors checked and OK	
Printers / Photocopier					X		P2	Managed Print Service (MPS)	
Cloud based backup			X		X		P1	Upgrade recommended	
CyberSecurity / Data Risk			X	X		X	P1	Recommendations detailed in Report	
Overall Costs									Totals

P1: Priority 1
P2: Priority 2
P3: Priority 3

- The audit report provides details of the work necessary
- Details to bring each DTI area to recommended minimum technical standards
- Recommendations and costs in each of DTI areas
- The audit highlights urgent (priority 1) or other priority areas

Oide-TiE has developed a 'Technical Support Guide' for Schools, which recommends that schools carry out an audit of DTI in the school. A template Request for Quote (RFQ) for Technical Support including a DTI audit has been included in the document. The guide is available on The Oide-TiE website at:

<https://www.oidetechnologyineducation.ie/technology-infrastructure/technical-support1/>

The following section gives a brief summary of some of the main infrastructure areas, and provides schools with links where they can find additional information on the Oide-TiE website.

### Computing Devices

Fit-for-purpose computing devices for teachers and students/pupils are critical to supporting teaching and learning. It is important that teachers are equipped with devices that allow them to carry out activities to support teaching and learning outcomes that align with the schools Digital Learning Plan, but also devices that they are comfortable with. Student devices need to support a wide range of activities that allow students to engage effectively in classes, in project work and other learning activities. Student devices need to be WiFi enabled, mobile, robust and need to have long battery life, so that they can be used throughout the school day.



iPad (iOS)  
(Apple)



Chromebook  
(Google)  
(Available from  
a range of suppliers)



Windows  
(Microsoft)  
(Laptops, Surface)  
(Surface available from  
Microsoft, Laptops from a range  
of suppliers)



Hybrids  
(Available from a  
range of suppliers)  
'Hybrid' devices

Oide-TiE has developed a new 'Computing Devices Guide' for Schools, which is available on our website at:  
<https://www.oideotechnologyineducation.ie/technology-infrastructure/computing-devices/>

Specific guidance on technical and purchasing considerations is available at the following link:  
<https://www.oideotechnologyineducation.ie/technology-infrastructure/technical-and-purchasing-considerations/>

### Presenting in the Classroom: Projectors, Interactive Flat Panels (IFPs)

**Projectors:** High quality projectors are critical to support teaching and learning in schools. A Projector Procurement Framework has been put in place to make it easier for schools to purchase high quality, fit for purpose projectors from approved quality providers. Schools can order projectors from approved suppliers, without having to seek quotes from other suppliers.

Five type of projectors are included, including Portable/Long Throw, Ultra Short-throw (both interactive and non-interactive), Laser Projectors (long lifespan), and High Lumens (for school halls or larger areas).

Further details can be found at:

<https://www.oideotechnologyineducation.ie/technology-infrastructure/presenting-in-the-classroom/>

#### **Interactive Flat Panels:**

Though mainly used in Primary school classrooms, Interactive Flat Panels (IFPs) may also be used in post primary schools, though are generally perceived as expensive for most post primary situations.

#### **IFP Purchasing Considerations: A new IFP Procurement Framework**

The Department/Oide-TiE have developed an Interactive Flat Panel purchasing framework for schools, which can be found at the following Oide-TiE link:

<https://www.oideotechnologyineducation.ie/technology-infrastructure/presenting-in-the-classroom/>

## School Network

A fit-for-purpose School Network (also known as a school 'local area network' or LAN) is critical to supporting all aspects of teaching and learning. This network connects the various DTI elements such as computing devices, fixed network and WiFi network and other DTI elements throughout the school. It also connects the school network elements to the internet via the schools broadband connection. When schools are seeking to upgrade their existing network or install a new school network they need to specify a system that is technically fit-for-purpose for their school situation, and one that can support their expanding future needs. Oide-TiE can support schools in this process.

### Key Points:

- A fit for purpose school network is critical for schools
- School networks must be fit-for-purpose for a school multi-user learning environment
- Suitable IT providers need to have a good track record with schools, and be able to supply references from other schools where they have installed and support similar systems.
- Schools considering significant upgrades to their school network, and who are seeking advice should contact Oide-TiE at [ictadvice@oide.ie](mailto:ictadvice@oide.ie)

Additional information on this area can be found at the following Oide-TiE link:

<https://www.oideotechnologyineducation.ie/technology-infrastructure/wifi/>

## School WiFi

Over the past number of years and as more WiFi enabled devices are being used in schools, a fit-for-purpose school WiFi system is critical to supporting all aspects of teaching and learning in schools.

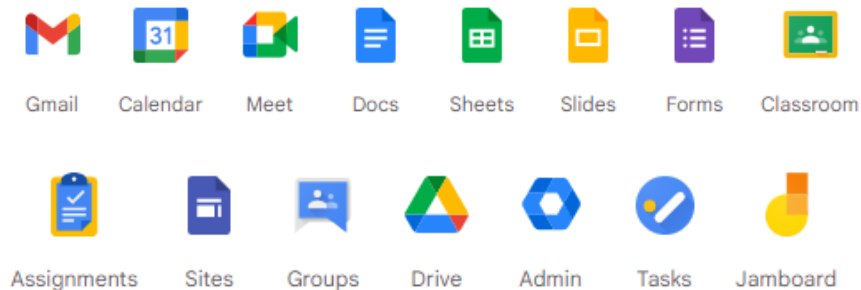
### Key Points:

- Fit for purpose WiFi connectivity is critical to supporting teaching and learning.
- Schools are one of the most demanding environments for WiFi
- WiFi systems must be fit-for-purpose for a school multi-user learning environment
- WiFi systems suitable for home/domestic use are not suitable for schools
- Suitable WiFi providers need to have a good track record with schools, and be able to supply references from other schools where they have installed and support similar systems.
- The Department of Education's WiFi procurement framework was in place from 2016 to 2020, however it has expired, as frameworks are generally not allowed to be in place for more than 4 years.
- Schools considering purchasing a new WiFi system, and seeking guidance should contact Oide-TiE at [ictadvice@oide.ie](mailto:ictadvice@oide.ie)

Additional information on this area including a WiFi Guide for Schools can be found at the following Oide-TiE link. <https://www.oideotechnologyineducation.ie/technology-infrastructure/wifi/>

## Learning Platforms

Learning Platforms (also known as Learning Management Systems) have become essential digital tools to support teaching, learning and assessment in schools. They provide a rich set of tools to support schools and are critical aspects of cloud based DTI Infrastructure. The two main learning platforms used in post primary schools are Google Workplace for Education and Microsoft 365/OneNote, though other cloud based platforms are also used in primary schools.



### Google Workspace for Education:

<https://edu.google.com/workspace-for-education/editions/overview/>

<https://www.oidetechnologyineducation.ie/technology-infrastructure/guide-to-google-workspace-for-education/>



### Microsoft 365 for Education / Licensing

<https://www.microsoft.com/en-ie/education/products/microsoft-365>

<https://www.oidetechnologyineducation.ie/technology-infrastructure/guide-to-microsoft-licensing/>

## Managing Printing in a School

Printing costs in a school can be significant, especially in larger schools. Improving how printing is managed can significantly support teaching and learning in a school. A Managed Print Service (MPS) is generally more appropriate for larger schools as an alternative to having many smaller printers positioned throughout the school. A Managed Print Service (MPS) is a service / contract for print services (normally outsourced to a third party company) to manage all printing, scanning and copier devices in your school premises. One key difference is that with MPS the school does not purchase the printers, but instead purchases a print service which is managed by an external print provider. Feedback from medium to larger schools consistently indicates that having an MPS in place is preferable to the school themselves purchasing and managing the printers.

Additional information on this area including a Managed Print Services Guide for Schools can be found at the following Oide-TiE link.

<https://www.oidetechnologyineducation.ie/technology-infrastructure/printing/>

## Cybersecurity Guidance and Supports

Cybersecurity is concerned with managing school data to make sure it is secure, and to protect it from being deleted, lost or stolen. From a school perspective data security aims to protect school systems, devices and the data stored on these systems from data loss, damage or theft.

Schools need to ensure that important school data is not lost, damaged or compromised and that the systems or devices that the data is stored on are protected. Cyberattacks are attempts carried out over the internet by third parties to steal or compromise systems or data. Cybersecurity uses a combination of user awareness raising, technologies, processes and controls to protect systems, networks, devices and data from cyberattacks. It aims to reduce the risk of cyberattacks and protect school data from attack.

When a computer becomes infected with ransomware, the data/files are encrypted (or locked) so that they cannot be accessed. Advice is provided below for schools on how to reduce the risk of data loss and cyberattack.

To support schools in understanding and addressing cybersecurity Oide-TiE has developed a section on 'Cybersecurity Guidance and Supports' for Schools, which is available on our website at:

<https://www.oidetechnologyineducation.ie/technology-infrastructure/data-security/>

## Oide Technology In Education Website:

All information in this guide, including links to additional information on the different areas can be found on the Oide-TiE website at <https://www.oidetechnologyineducation.ie/technology-infrastructure/>

Technical and Purchasing Considerations ▶

Cybersecurity Guidance and Supports ▶

School Leadership ▶

Guide to Microsoft Licensing ▶

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Networking & WiFi ▶

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Schools Broadband Programme ▶

Technical Support ▶

New School Builds ▶

Online Learning ▶


Printing ▶

School Websites: Accessibility ▶

### + Guidance and support for schools

We provide guidance and support for schools on Digital Technology Infrastructure (DTI), including computing devices, school networking and WiFi, projectors & interactive flat panels, learning platforms, cybersecurity and technical support, (contact us at [ictadvice@oide.ie](mailto:ictadvice@oide.ie)). We also provide a single point of contact and support for 'Schools Broadband' via our Schools Broadband Service Desk, (contact us at: 1800 33 44 66 or at [broadbandservicedesk@oide.ie](mailto:broadbandservicedesk@oide.ie))


**Technical & Purchasing Considerations**



Guidance and support on purchasing digital technology infrastructure

FIND OUT MORE ▶


**Cybersecurity Guidance and Supports**



Cybersecurity Guidance and Supports

FIND OUT MORE ▶


**School Leadership**



Digital Technology Infrastructure Guide for School Leaders


FIND OUT MORE ▶

**Guide to Microsoft Licensing**




Guide to Microsoft Licensing

**Guide to Google Workspace for Education**



Guide to Google Workspace for Education

**Networking & WiFi**



Guidance on Networking and WiFi for schools

For additional Digital Technology Infrastructure related queries schools can email [ictadvice@oide.ie](mailto:ictadvice@oide.ie)

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