

BUILDING THE FOUNDATION FOR THE  
**DIGITALLY ENABLED SCHOOL**

2019 – 2022  
INFORMATION & TECHNOLOGY STRATEGIC PLAN





# INTRODUCTION

Now, more than ever, our community of students, parents and Catholic supporters is engaging the education system through the lens of the digital world. To maximize our effectiveness as the largest Catholic school system, and to support our students in achieving their full potential, the Toronto Catholic District School Board (TCDSB) needs to leverage technology and the associated best practices that drive success. To achieve this, we have set a bold new vision to enable the digital future of our schools.

*The future TCDSB school is completely enabled by seamless technology and data to deliver high-quality, personalized, and efficient educational services to students and parents. It supports employees in adopting modern tools and teaching methods; uses technology to adapt to the individual learning needs of students while ensuring their well-being; allows parents to engage effortlessly in the education system; and fosters a nurturing and strong Catholic community.*

This long-term vision will not be achieved by simple words on paper or by individual decisions. It requires action and focus. It requires faith and perseverance. It requires cooperation and collaboration. All of this needs to be accomplished within the context of current fiscal challenges. To make this vision a reality we have developed a plan that will be delivered in three phases over the coming years. BUILD. UNITE. ACCELERATE.

**BUILD** - Our 2019 to 2022 Information and Technology Strategic Plan takes the first steps toward our long-term digital vision by building the foundation for digitally enabled schools. We are taking a realistic set of actions on improving core technologies and practices across our system. Our 3-years plan will respond and prepare us for the changing world of education, improve our process and administrative practices, enable stronger connections with our parents and students, and enhance our ability to protect students in a digitally connected world. We will do this while balancing the pace of change with our fiscal reality.

We are proud to take these first steps toward improving the use of technology across the system and encourage everyone to join us as we step into a bold new future.



**STEVE CAMACHO**  
CHIEF INFORMATION OFFICER



**RORY MCGUCKIN**  
DIRECTOR OF EDUCATION



## PLAN DEVELOPMENT

In November 2018 we embarked on an almost year long journey to develop our new Information and Technology (I&T) Strategic Plan. Driven by the Chief Information Officer and working in collaboration with system leaders we engaged in a number of discussions and activities to understand our current environment and plan for our digital future. These activities included:

- Reviewing educational technology trends
- Benchmarking ourselves against other educational service providers with data from Gartner
- Deep dive focus groups on key strategic topics
- Analyzing our strengths, weakness, opportunities, and threats (SWOT) from a digital perspective
- Completing a cybersecurity assessment and threat scenario exercise
- A board-wide classroom technology asset audit
- Reviewing past and current Parent Voice surveys
- Understanding external priorities through a review of the Government's Line-by-line spending report and the Auditor General's report on school board information technology (IT)
- Understanding and aligning our technology objectives with our Multi-Year Strategic Plan

In addition to these robust input activities, we sought feedback to our draft plan from a number of groups to ensure we were on the right track. These consultations included:

- Union partners to understand the impact on staff
- Principals to understand how this plan will impact our schools
- The Catholic Parent Involvement Committee to gain a parent's perspective
- Audit Committee to seek input from our elected Trustees and externals committee members.



# STRATEGIC CONTEXT

## Benchmarking

To understand our current context, we benchmarked ourselves against several financial and operational metrics. Our analysis revealed a significant gap in IT spending and an equally significant gap in IT process maturity. We believe that the lack of IT investment over many years has led to underdeveloped technological capabilities for the organization that need to be addressed with a strong focus on the foundations. While these findings are cause for discussion, we believe the information is important to share in order to have a deeper understanding of challenges we face.

|                               | TCDSB | EDU AVG* |
|-------------------------------|-------|----------|
| % of total budget spent on IT | 2.1%  | 5.7%     |
| % of IT employees vs total    | 0.8%  | 4.9%     |
| % of IT budget spent on "Run" | 93.0% | 75.0%    |

Fig. 1 • \*data from Gartner Inc.

Through this understanding we can develop a plan that is realistic yet aspirational enough to have a meaningful and positive impact on parents, students, and other stakeholders. Our benchmarking work compared TCDSB's IT metrics against world-wide educational sector data maintained by Gartner Inc., a well known technology advisor. This industry

average includes data from both K-12 and Higher Education institutions collected in 2018. The data does not include other school boards in Ontario because such data does not currently exist. However, given school boards in Ontario are all funded using the same funding formula, we believe this situation is not unique to the TCDSB. Nevertheless, we believe we can do better with resources we have and our plan focuses on maximizing that opportunity now and into the future.

|                               | TCDSB | EDU AVG |
|-------------------------------|-------|---------|
| Applications                  | 1.9   | 2.0     |
| Data and Analytics            | 2.0   | 2.2     |
| Architecture and Innovation   | 1.9   | 2.2     |
| Infrastructure and Operations | 1.9   | 2.3     |
| Program and Portfolio         | 1.6   | 2.6     |
| Information Security          | 2.2   | 2.7     |
| Privacy                       | 2.5   | 2.5     |
| IT Strategy and Execution     | 1.6   | 2.3     |

Fig. 2 • data from Gartner Inc. out of max score of 5.0



# STRATEGIC CONTEXT

## Government Priorities

In the fall of 2018, the Government of Ontario hired Ernest and Young (E&Y) to complete a line-by-line review of the past 15 years of provincial spending. While the report was broad in nature, it did suggest a number of “ideas” the TCDSB can consider for better alignment with Government priorities. The specific technology based recommendation in the report included:

- Digital First - A digital approach to improve the services delivered to citizens
- Back Office Efficiencies - Increasing the efficiency of services from cost per unit perspective
- Process Optimization - Reduce the self-imposed administrative burden
- Workforce Optimization and Rostering - increase the flexibility of the workforce

## Auditor General’s Report

In December 2018, Ontario’s Auditor General released a report on school board technology practices. While the TCDSB was not directly audited, the report revealed key findings that are relevant to the TCDSB. These include students’ access to technology and the varied age of IT equipment across schools.

- Not all boards provide formal security awareness training or have cybersecurity policies.
- School boards were inconsistent in their ability to keep track of IT assets such as laptops.
- Most school boards do not have formal business continuity or a disaster recovery plan.
- There is no single common centralized student information system at the provincial level.
- The Ministry’s system that boards and schools use to submit student data to the Ministry is inefficient.

## Educational Sector Technology Trends

The TCDSB worked with experts from Gartner Inc. to understand and rationalize some of the most important technology trends affecting the education sector world-wide. The analysis revealed several broad trends in business and technology that could impact the TCDSB in the coming years. The most noteworthy trends affecting K-12 schools are shown in the graphic to the right. While not all trends may impact the TCDSB, they are all important to consider.

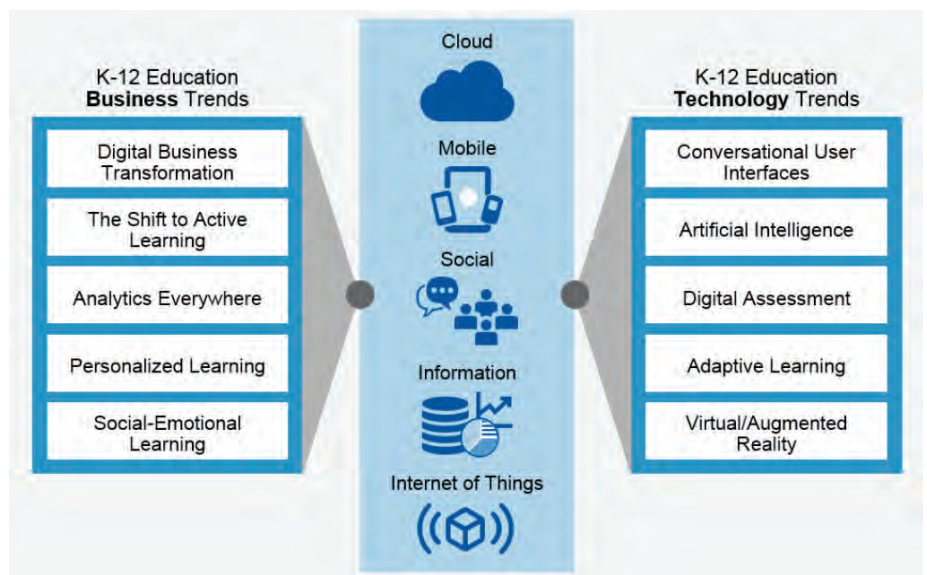


Fig. 3 • Top trends K-12, Gartner Inc.

# STRATEGIC CONTEXT

## Digital SWOT Analysis

As part of the development of our I&T Strategy, the ICT Services management team developed a list of strengths, weaknesses, opportunities, and threats (SWOT) from a digital perspective.

SWOT analysis is a planning methodology that helps organizations build a strategic plan while staying focused on the most relevant items for strategic planning. It helps select the best possible strategic objectives and goals. These items helped inform our overall direction and provided context to the choices made within this plan.

|               |  |   |
|---------------|--|---|
| Internal View | <b>STRENGTHS</b> <ul style="list-style-type: none"> <li>Organizational knowledge</li> <li>ICT Staff commitment</li> <li>Growing and large school board</li> <li>Staff and student interest in technology</li> <li>School connectivity</li> <li>Cross district collaboration</li> <li>Staff and teacher collaboration</li> </ul>  | <b>WEAKNESS</b> <ul style="list-style-type: none"> <li>Dated systems and associated processes</li> <li>IT decision-making and planning</li> <li>Cybersecurity practices</li> <li>IT training and professional development</li> <li>Digital communications with stakeholders</li> <li>Consistent project execution</li> <li>Organizational change capacity</li> </ul>                              |
| External View | <b>OPPORTUNITIES</b> <ul style="list-style-type: none"> <li>Government interest in digital solutions</li> <li>Demand for technology by stakeholders</li> <li>Student access to technology/internet</li> <li>Willingness to collaborate with other public and private firms</li> <li>Interest in modern teaching tools</li> <li>Rapid technology adoption in society</li> </ul> | <b>THREATS</b> <ul style="list-style-type: none"> <li>School Board/Government Funding cuts</li> <li>Lack of long-term thinking and commitment</li> <li>Localized/school thinking</li> <li>Vendor change (SIS, SAP, etc)</li> <li>Too many technology options</li> <li>Skilled IT staffing shortages</li> <li>Labour relations</li> <li>Parent choice of system (public, private, etc.)</li> </ul> |





## VISION FOR A DIGITALLY ENABLED SCHOOL

The future TCDSB school is completely enabled by **seamless technology and data** to deliver **high-quality, personalized, and efficient** educational services to **students and parents**. It **supports employees** in adopting **modern tools and teaching methods**; uses technology to adapt to the **individual learning needs** of students and ensure their well-being; allows **parents to engage effortlessly** in the education system; and fosters a nurturing and **strong Catholic community**.



# DIGITALLY ENABLED SCHOOL



## FUTURE OBJECTIVES

- Data and Analytics
- IoT & Smart Buildings
- Personalized Learning
- Artificial Intelligence

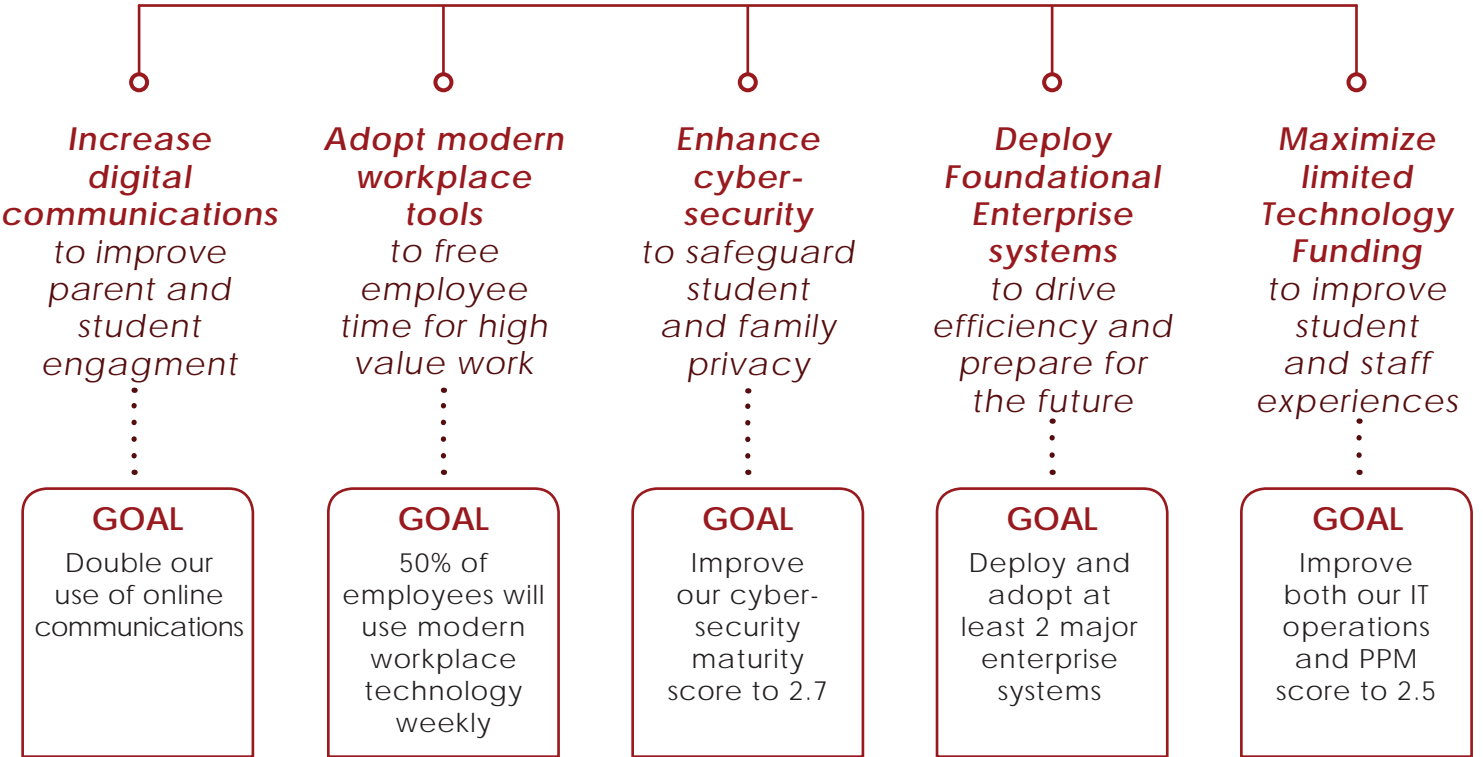
**Seamless, Data-driven, Personal, Efficient**

FEEDBACK

## BUILD THE FOUNDATION FOR THE DIGITALLY ENABLED SCHOOL

**2019 - 2022 Mission**

*By 2022, we will build the foundation of the Digitally Enabled School by focusing on the following objectives:*



# OBJECTIVE

## Increase digital communications to improve parent and student engagement

Strong bonds through outreach and communications with students, parents, and other stakeholders is a cornerstone of Catholic education. It strengthens our sense of community and supports student achievement. Increasingly, parents and students are engaging and expecting communications delivered in a digital format.

With over 90% of TCDSB households reporting that they have access to the Internet, a computer, or a smartphone, our ability to reach parents and students in the digital world has solidified. Our goal of increasing digital communications meets these expectations by implementing a multi-pronged approach to improve digital communication methods and prepare for the additional communication demands of the future digitally enabled school.

*By 2022, we will double our use of online communications to parents and students.*

*We will meet our objective by achieving the following key results:*

- **Deploy a new, modern public website**
- **Digitize school and Trustee newsletters**
- **Deploy a digital portal for parents and students**
- **Offer IT supports to parents and students**

# OBJECTIVE

## Adapt modern workplace tools

### to free employee time for high value work

To reduce the burdens associated with using outdated workplace systems (email, word- processing, spreadsheets, file sharing, note taking, etc.) we will deploy the latest cloud based office system that will provide a unified and seamless experience for every day computing and office work. We will couple this technology with easy to use web meeting technologies that will allow employees to conduct effective meetings online and reduce the need to meet face-to-face.

To support our employees in the the transition to modern office tools we will develop a robust training strategy that supports employees use of these new tools in the most efficient ways possible. In addition, we will look for opportunities and develop strategies to ensure all employees have access to modern devices that will enable them to use modern software tools.

*By 2022, 50% of employees will use modern workplace technology weekly.*

*We will meet our objective by achieving the following key results:*

- **Replace our office systems with cloud-based solutions**
- **Deploy web meeting technology**
- **Deliver a robust training plan for workplace tools**
- **Ensure all employees have access to appropriate devices**



# OBJECTIVE

## Enhance cybersecurity to safeguard student and family privacy

Over the last number of years, cybersecurity threats have increased worldwide. The education sector is not immune to these threats and TCDSB must take definitive action to safeguard its most precious information, student and parent data.

To focus our cybersecurity efforts, we will create roles within the ICT Services division dedicated to cybersecurity and risk that will drive system wide initiatives and improvements; we will create a robust cybersecurity campaign that will improve awareness for all staff and teachers; and finally, we will provide clear direction to all employees about their cybersecurity responsibilities.

While our effort may reduce the impact and likelihood of cybersecurity events, we know that some may still occur. To prepare for future events, we will develop an organization-wide cybersecurity response plan that will consider technology, privacy, and communication factors.

*By 2022, we will improve our cybersecurity maturity score to 2.7 on the Gartner IT Score scale.*

*We will meet our objective by achieving the following key results:*

- **Create a dedicated IT security team**
- **Develop a formal and ongoing security awareness program**
- **Develop a robust IT security policy**
- **Formalize organization-wide IT security incident response plan**

# OBJECTIVE

## Deploy foundational enterprise systems to drive efficiency and prepare for the future

To reduce our operational risks, we will replace our aging Student Information System with a modern cloud-based system and adopt the associated best practices. As we implement the new student information system we will reduce our use of older technologies and ensure the future sustainability of our core enterprises systems. In parallel, as we move forward, our practices will change to favor well-integrated, off the shelf systems instead of internal development of custom software.

To improve our recruitment efforts and improve the efficiency of the hiring process, we will deploy a new modern and integrated cloud-based HR recruitment system that will replace dated paper-based processes with modern data-driven digital hiring practices.

For both projects, we will create temporary, but dedicated and well supported, cross-functional implementation teams to ensure full value for our major investment in both enterprise systems.

*By 2022, we will improve both our IT operations and PPM score to 2.5 on the Gartner IT Score scale*

*We will meet our objective by achieving the following key results:*

- **Create dedicated implementation teams**
- **Implement a new cloud-based Student Information System**
- **Implement a new cloud-based HR recruitment system**
- **Rationalize and reduce the need for the development of custom software**

# OBJECTIVE

## Maximize limited technology funding to improve student and staff experiences

To maximize the positive impact of technology with limited funding we will select strategies to make IT as efficient as possible.

Our initial focus will be on IT investment and resource decisions to make the most efficient and effective decisions possible. We will create a cross-functional management decision-making structure for organization-wide technology issues and projects. Our new decision framework will help us inform the best overall plan to renew our classroom technologies and prepare for the future. We will subsequently work to improve the planning and delivery of IT projects by developing a robust and light-weight project and portfolio management (PPM) practice.

To help the ICT Service Division operate as efficiently and effectively as possible, we will re-organize the ICT department and operating model to focus on planning, delivery, and operations as well as support the implementation of the overall I&T Strategy.

Finally, to ensure consistent and clear levels of service, we will standardize and measure our core operational process of incident, problem, request, and change management and deliver measured results against organizational set targets.

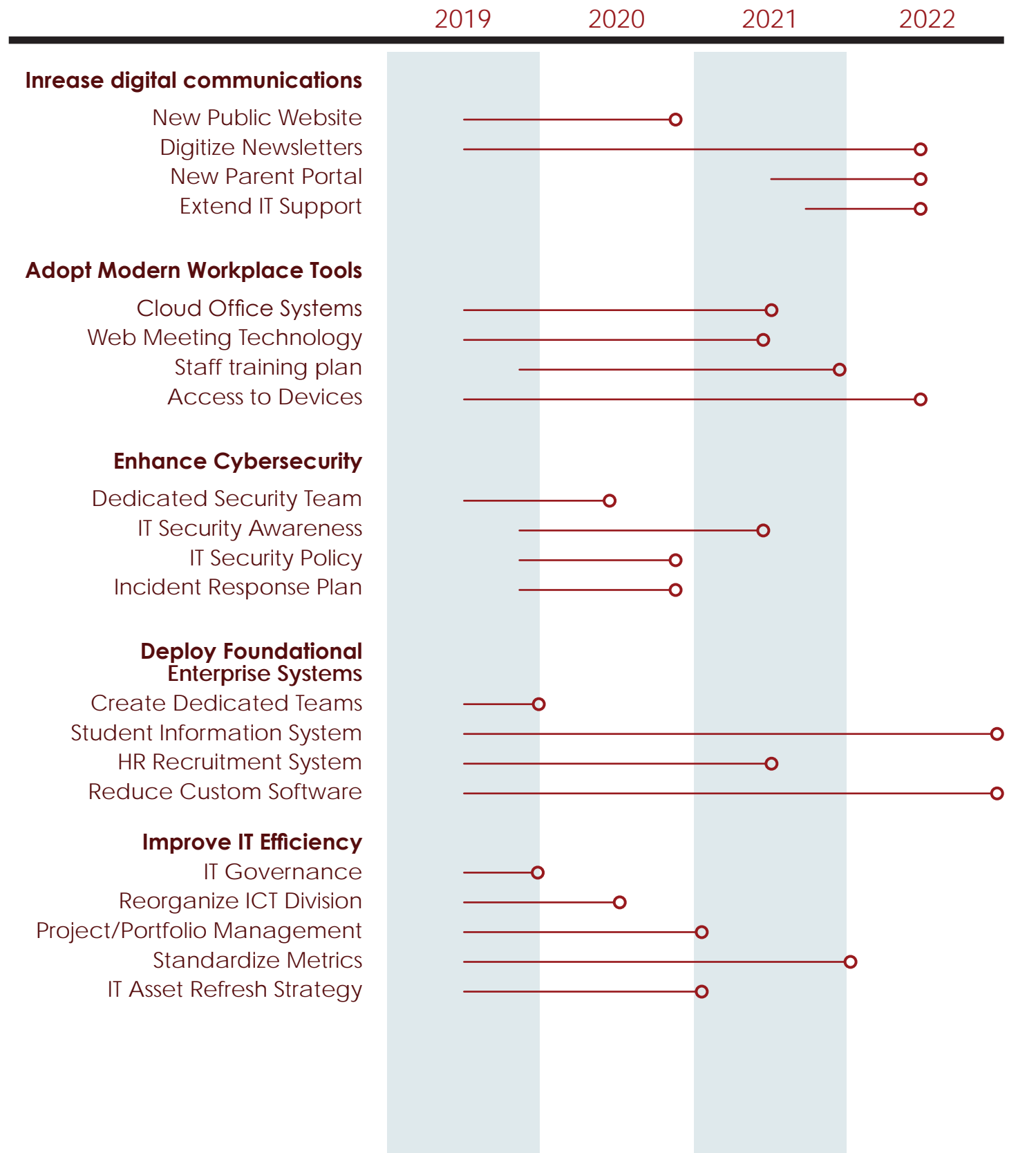
*By 2022, will improve both our IT operations and PPM score to 2.5 on the Gartner IT Score scale*

*We will meet our objective by achieving the following key results:*

- **Develop a formal IT governance structure**
- **Reorganize the IT department for efficiency**
- **Set up a formal PPM practice and team**
- **Standardize core IT operations, metrics & targets**
- **Develop a sustainable technology refresh plan for classrooms**



## SUMMARY TIMELINE





## LINKING OBJECTIVES TO MYSP

|  | Increase digital comms | Adopt modern workplace tools | Enhance cyber-security | Deploy enterprise systems | Maximize IT Funding |
|--|------------------------|------------------------------|------------------------|---------------------------|---------------------|
| Fostering Student Achievement and Well Being | ✓                      |                              | ✓                      | ✓                         | ✓                   |
| Inspiring and Motivating Employees           | ✓                      | ✓                            |                        | ✓                         | ✓                   |
| Providing Stewardship of Resources           | ✓                      | ✓                            | ✓                      | ✓                         | ✓                   |
| Enhancing Public Confidence                  | ✓                      |                              | ✓                      | ✓                         | ✓                   |
| Achieving Excellence in Governance           | ✓                      |                              |                        | ✓                         | ✓                   |
| Living Our Catholic Values                   | ✓                      |                              |                        |                           |                     |







Toronto Catholic  
District School Board

