



Ref.: 2023-02-D-46-EN-3

Orig: EN



## ICT Report 2022 & ICT Plan for 2023

Board of Governors of the European Schools

Meeting on 12, 13 and 14 April 2023 in Dublin (Ireland) - Hybrid

<p><b>Budgetary Committee</b> Meeting on: 8-9 March 2023</p> <p><u>Proposal:</u></p> <p>The Budgetary Committee is invited to give a favourable opinion on the present document: <b><i>ICT Report 2022 &amp; ICT plan for 2023.</i></b></p> <p><u>Outcome:</u></p> <p>The Budgetary Committee issued a favourable opinion. As proposed by the European Commission, the OSG was invited to present the annual ICT plan with the envisaged IT projects and their envisaged budgetary impact.</p>	Ref.: 2023-02-D-46-en-1
<p><b>Board of Governors</b> Meeting on: 12-14 April 2023</p> <p><u>Proposal:</u></p> <p>The Board of Governors is invited to give a favourable opinion on the present document: <b><i>ICT Report 2022 &amp; ICT plan for 2023.</i></b></p> <p><u>Outcome:</u></p> <p>The Board of Governors approved the ICT Report 2022 and ICT plan for 2023.</p>	Ref.: 2023-02-D-46-en-2
Final version approved by the Board of Governors at the meeting on: 12 <sup>th</sup> , 13 <sup>th</sup> and 14 <sup>th</sup> April 2023	Ref.: 2023-02-D-46-en-3

**Abbreviations and definitions used in the text:**

BC: Budgetary Committee

BoG: Board of Governors

DDFA: Deputy Director for Finance and Administration

DDP: Deputy Director Nursery and Primary

DDS: Deputy Director Secondary

EC: European Commission

ES: European Schools

OSG: Office of the Secretary-General of the European Schools

SMS: School Management System

WG: Working Group

## Content

<b>ICT Report 2022 &amp; ICT Plan for 2023.....</b>	<b>1</b>
<b>I. Introduction.....</b>	<b>4</b>
<b>II. Note of the Budgetary Committee.....</b>	<b>5</b>
<b>III. ICT report for 2022.....</b>	<b>5</b>
1. IT Governance: IT Strategy Group.....	5
2. The ICT Unit .....	6
3. System and Networks Sub-Unit.....	11
4. Development and Statistics Sub-Unit.....	20
5. ServiceDesk Sub-Unit.....	22
6. Implementation of the PM <sup>2</sup> Project management methodology at OSGES with the focus on IT Projects.....	25
<b>IV. ICT plan for 2023.....</b>	<b>28</b>
1. IT Governance: The IT Strategy Group.....	28
2. Common projects for the ICT Unit at the OSG.....	28
3. System and Networks Sub-Unit .....	30
4. Development and Statistics Sub-Unit.....	39
5. ServiceDesk Sub-Unit.....	43
6. ICT projects with participation of several teams and/or in collaboration with several units at the OSG .....	44
<b>V. ICT and Data Protection .....</b>	<b>49</b>
<b>VI. Staff situation of the OSG ICT Unit .....</b>	<b>49</b>
<b>VII. Proposal .....</b>	<b>52</b>
<b>VIII. Conclusion .....</b>	<b>52</b>
<b>IX. Annex 1 Distribution of ICT hardware in the schools on 31/12/2022 and Development of IT Budgets .....</b>	<b>53</b>
<b>X. Annex 2 - Executive summary of the IT Security Assessment.....</b>	<b>54</b>
<b>XI. Annex 3 – Summarised list of envisaged ICT projects with their envisaged budgetary impact.....</b>	<b>55</b>

## I. Introduction

The purpose of this document is two-fold, to provide:

- 1. Report on the ICT activities performed previous year, the year of 2022 in Section III**
  - a status report on the main objectives defined for the year 2022 in the previous ICT Report<sup>1</sup>, missions accomplished, uncompleted and/or non-initiated missions.
  - an overview of the noteworthy events in the year 2022 as part of the information system (IS) of the European Schools and its ICT resources.
- 2. Information about the ICT Plan for 2023 and onwards in Section IV**
  - information and details on the envisaged projects for the year of 2023.
  - outlining, how the tasks and projects in the ICT plan for 2023 are aligned with the high-level strategic goals and operational objectives defined in the Multiannual ICT Plan 2022-2026<sup>2</sup>.

In line with the revised prioritisation of its tasks and projects the ICT Unit focused in 2022 on an improvement of the reliability and security of the IT infrastructure and the continuation of the prioritised key projects. Moreover, requests for some new developments were also addressed as well as the internal needs for improvements of the IT operations at the ICT Unit.

In 2023, the ICT Unit will focus on a continuation of the already started projects. A particular attention will be given to the improvement and reinforcement of the ICT infrastructure and the core services provided by the ICT unit as outlined in the multiannual ICT Plan 2022-2026. The reinforcement of the IT security is a high priority objective.

This report has been produced by the OSG ICT and Statistics Unit.

---

<sup>1</sup> 2022-01-D-83-en-3

<sup>2</sup> 2022-02-D-6-en-3

## II. Note of the Budgetary Committee

The Budgetary Committee took note of the report and invited the Board of Governors to take note of it. As proposed by the European Commission, the OSG was invited to present the annual ICT plan with the envisaged IT projects and their envisaged budgetary impact.

Accordingly, the ICT Plan for 2023 was updated with more information on the envisaged projects. Additionally, a simplified summary of the envisaged projects was included to this document as Annex 3.

## III. ICT report for 2022

After the challenging years with the Covid-19 pandemic, the focus of the ICT unit during 2022 was, in line with the Multi-Annual ICT plan for 2022-2026, to improve and reinforce the ICT services at the ES and align them with the current industry standards in the IT-industry. The main objective during the year of 2022 was to reinforce the ICT infrastructure, improve the quality standard of the ICT services to be able to provide high quality, reliable and secure ICT services.

### 1. IT Governance: IT Strategy Group

The ICT Strategy Group met on numerous occasions in 2022, such as:

The IT-ADMIN Sub-Group met three times (chaired by the Head of the ICT Unit) in 2022 for addressing the administrative, technological, financial and security aspects of the ICT operations. These meetings took place on February 18<sup>th</sup>, May of 19<sup>th</sup> and October 27<sup>th</sup>, 2022. Additionally, an extraordinary IT-ADMIN Sub-Group meeting was held on the 25<sup>th</sup> of November 2022 on the topic of SMS replacement project. The minutes for the meetings are available in the TEAM WG IT ADMIN Teams channel.

The IT-PEDA Sub-Group (chaired by the Head of the Pedagogical Development Unit), focusing on all pedagogical aspects, met several times during the year 2022. Whilst taking as its basis the priorities, in pedagogical terms, expressed in the Multi-Annual Plan approved by the Board of Governors at its April 2018 meeting<sup>3</sup>, the IT-PEDA Sub-Group produced several documents. Most important documents provided by IT PEDA WG in 2022:

---

<sup>3</sup> Doc 2018–01-D-79-en-4.

- Memorandum (2022-02-M-3) sent to the schools on the new Denomination and Job Description for the ICT Coordinator in the European Schools - 2021-09-D-14-en-2 (Approved by the Joint Teaching Committee on 7-8 October 2021) and organisation of an online workshop for the new Digital Learning Coordinator (12.05.2022)
- Memorandum (2022-02-M-4) on the Learning Scenario Template.
- Report on the 2020-2021 school year survey (2022-01-D-13-en-2) for the 'Preparation of the School Year 2021-2022' Task Force, presented to the Board of Governors on 6-7-8 Aprils 2022 (written communication)
- Survey on the Distance Teaching and Learning Policy (2020-09-D-10-en-3).

Extended revision of the 'Distance Teaching and Learning Policy' document, replaced with the document 'Distance Teaching and Learning Framework for the European Schools' during temporary suspension of regular teaching in situ (2022-09-D-13-en-2), approved by the Board of Governors on 6-8 December 2022. A more detailed report on the activities of the IT-PEDA Strategy WG will be appended to the Annual Activity Report of OSG<sup>4</sup>.

## 2. The ICT Unit

The COVID pandemic raised serious challenges for the ICT Unit. The envisioned ICT plans had to be adopted to be able to support the Schools and the OSG. Several solutions were introduced under high time pressure for providing support for distance teaching and learning. The ICT Unit focused in 2022 on reviewing and reinforcing the solution introduced during the COVID period as well as on the improvement of the reliability and security of the IT infrastructure and the continuation of the prioritised key projects.

The ICT Unit was affected by a couple of unexpected major incidents with high impact on the IT operations. All these incidents were related to power cuts (July 2022 and December 2022) at the OSG datacentre and to the shortcomings of the power-supply solution. The recovery and the impact mitigation on the services and solutions in the datacentre had a major impact on operations and the overall service availability. The recovery activities were negatively affected by the staffing issues at the System team / ICT Unit. However, the number of major incidents were considerably reduced compared to the previous years.

---

<sup>4</sup> Doc 2021-02-D-5-en-1.

During the year of 2022 a high number of important achievements were made possible by the common efforts at the ICT and Statistics unit:

➤ **IT Security assessment**

A very first IT security assessment was executed at the OSG by independent, third-party provider. More information in section 2.3.

➤ **Cloud foundation project**

A Cloud foundation project was started for reinforcing and enhancing the cloud-infrastructure. See section 2.6.

➤ **SMS replacement project**

A project was initiated and executed for investigating and preparing the replacement of the main business solution, SMS, used at the ES for both administration and education. More information in section 2.5.

➤ **IT governance audit**

An IT Governance audit was performed by the IAS. See section 2.4 for more details.

➤ **Simplification Working Group – Digitalisation Sub Working Group**

The ICT unit participated in the work of the Simplification WG initiated by the French presidency in 2021. The HoU ICT was chairing the Digitalisation Sub-Working group. As a result of the work of this WG, a Digital-Signature solution was procured at the end of the 2022. The solution is currently under introduction at the OSG. The introduction of digital credentials and badges is planned. Additionally, the Digitalisation Sub WG participated in the work of the HR Sub WG with focus on the planning for the introduction of a digital HR solution. The continuous follow up on the further needs for digitalisation at the ES has been transferred by the decision of the BoG to the IT Strategy WG.

➤ **Technical support for the PISA tests**

During the preparation and the successful execution of the PISA tests performed in Q1 and Q2 at system level, the ICT unit provided technical support and consultation.

➤ **PM<sup>2</sup> adoption project**

During 2022 a dedicated project has been initiated and executed with the support of the EC with the goal of adopting and tailoring the PM<sup>2</sup> project methodology for the needs of the IT projects at the European Schools. For more details see chapter 6. in the ICT report for 2022 part.

- **TESTA network connection**

The European Schools finally was connected to and joined the TESTA network of the EC with the support of the Belgian BOSA agency. This will allow the ES to connect to, and use the different services provided by the EC in the framework of the TESTA network.
- **Go live of the CEA application**

The new Enrolment application developed for the schools of Brussels during 2021 was successfully put in production in January 2022. After the successful go live, more than 2000 applications were processed for the school year of 2022-2023.
- **Eursec.eu project finalisation**

The Eursec.eu migration project initiated more than 5 years ago was successfully finalised in June 2022 thanks to the common effort done by the IT technicians at the schools and the ICT staff at the OSG. Finally this long project was possible to be closed and the modernisation of the Admin-network to be finalised.

## 2.1 ICT trainings

The ICT Unit, following to the recommendations of the Internal Audit Service of the European Commission (IAS) in its 'Consulting Report on human resources allocation and distribution of non-teaching tasks in the European Schools', followed up on the trainings in the PM<sup>2</sup> project methodology initiated in 2021 with a number of different activities.

As the continuation on the improvement of project management competencies and methodology in the ICT Unit, PMP (Project Manager Professional) trainings has been initiated and conducted in January 2022.

For reinforcing the network competency at the ICT unit, CISCO CCNA training was organised and conducted. This training was offered to a number of IT technicians of the schools as well. A total of 12 staff members were enrolled and conducted successfully these high-level technical trainings.

## 2.2 Methodological development

The methodological development initiated during the last years has been successfully followed up with additional improvements. These advances were made possible also by the new IT service management tools introduced, which are providing improved support for applying the best practice methodologies.

Some of the most important methodological achievements during 2022 were:



- PM<sup>2</sup> project management methodology applied and further refined
- The use of PM<sup>2</sup> Business Case artefacts and templates for new ICT project initiatives
- Considerably improved system and project documentation
- Introduction of the project portfolio management
- Investigation and piloting of a solution for creating and managing Enterprise Architecture
- Introduction of a tool for business process documentation based on BPMN 2.0
- Further improved Incident management process
- Use of Change Management and Change Advisory Board for system management
- Improved ICT communication
- Improved planning and follow up of service and support requests

Many of these improvements already resulted in visible improvements in the services of the ICT unit. However, the effect of these methodological improvements is expected to increase during the following years.

## 2.3 IT Security Assessment project

During the first part of 2022, an IT Security assessment was initiated and conducted by an external, third party, company (Nomios) with the purpose of assessing the security status of the network infrastructure. The focus was on identifying and localising the IT security shortcomings and challenges as well as, providing proposals for improvements. This was the very first IT security assessment executed at the European Schools.

In the outcome of the assessment, several high urgency and high-risk security shortcomings were pointed out, which all were addressed and mitigated with highest urgency. From IT security point of view, the ES was positioned on a mediocre, average level. Given the current strained IT security situation, the ICT unit will continue the necessary work for modernising and reinforcing the IT security situation at the ES.

The detailed, technical results of the IT Security assessment are confidential. However, the Executive Summary of the report is attached to this document in Annex 2., 'Executive summary of the IT Security Assessment'.

## 2.4 IT Governance audit

The Internal Audit Services (IAS) of the EC conducted an audit of the IT Governance of the European Schools. It was the first time the IT Governance of the European Schools was audited. The final report was published as: 'IAS.B1-2022-EU SCHOOLS-001 - IT governance in EU-SCHOOLS'.

In the audit report a number of recommendations are pointing out the need for:

- Reinforcement and application of proper project management methodologies, such as the use of Business Case, Total Cost of Ownership (TOC), clear project organisation roles and project ownership
- Better involvement of business representatives in the IT Governance processes.
- Improved and clarified IT governance rules
- Improved IT risk and IT Security management, etc.

In the Action Plan proposed by the European Schools the recommendations are addressed and the ICT unit at the OSG will focus under the forthcoming years on providing support on system level for the implementation of the changes required and addressed by the IAS recommendations.

## 2.5 SMS replacement project

SMS is currently the main business application of the European Schools both for administration purposes and for supporting the education. As the contract for SMS will end in December 2023, the ICT unit initiated and organised a project for assessing the needs for the SMS replacement. A requirement gathering phase was planned and conducted with involvement from over 300 staff members, stake holder representants. In connection to the requirement gathering phase, several dedicate meetings were organised with important stakeholder groups for discussing the challenges of the SMS replacement project and assessing the different available options.

The results of this project are reported in a separate document and will be presented separately to the Board of Governors: '**2023-02-D-44-en-2 SMS Project**'.

## 2.6 Cloud Foundation project

As the continuation of the Cloud Roadmap project executed during 2021 a now project focusing on the reinforcement of the cloud infrastructure was initiated and started during 2022: The Cloud Foundation project. The main objectives of the project are:

- The reinforcement and modernisation of the Cloud infrastructure of the European Schools
- Introducing secure and functional Landing Zones
- Introducing a modern monitoring solution
- Modernising and securing the employed backup solutions.

The project is supported by and executed in collaboration with Microsoft Consultancy Services. The project is currently under execution and is expected to be finalised by the end of Q2 2023.

## 3. System and Networks Sub-Unit

During 2022 the focus for the System and Networks team was on the ongoing projects, on the further strengthening of the technical infrastructure and on the business continuity. Special attention has been paid to the assessment of existing solutions, simplification, when possible, documentation and processes standardization. In addition, there was a special focus on communication improvement.

Based on the reviewed prioritisation of projects the System and Networks Sub-Unit focussed on:

- Migration to EURESC.EU
- IT Security Audit
- Data Centre improvements
- Skype for Business to MS Teams Migration at OSG (Telephony Solution)
- MS Exchange Migration (2013 to 2019)
- Patch Panel rooms and warehouse clean up, organization, and material preparation for disposal
- Reinforcement of the Azure cloud environment

- New Backup Solution
- New Wi-Fi Solution
- EURSC Domain Controller Migration (2012 to 2016)
- Scholae Domain Controller Migration (2012 to 2019)
- Distributed File Server Migration (2012 to 2019)
- New Exchange Load Balancing Solution
- New Load Balancers for Internal and External traffic
- Support HR Unit with new Kelio Pro project
- SQL Data Base Modernization
- O365 Modernization and Security establishments
- Microsoft Teams Hybrid Meeting Rooms Project for the OSG.
- Evere school Microsoft Teams Telephony Solution.
- Network Infrastructure upgrades in OSG.

### 3.1 Migration to EURSC.EU

Concerning the migration from EURSC.ORG to EURSC.EU a roadmap describing all essential steps was developed and discussed within the ICT ADMIN Group and with the Directors of the 13 schools. The objective was to migrate all the schools by the end of 2019.

Even though this objective was not achieved during 2021, substantial progress could be made during Q4 due to the improved cooperation between the System and Networks Sub-Unit, IT Local teams of the schools and ICT Secretariat. For facilitating the project and deblocking the communication a dedicated project manager has been assigned to the project. The road map has been reviewed and the reporting improved. A dedicated collaboration channel has been created for facilitating communication between the schools and the ICT unit at the OSG. Thus, it helped us to close the project in the Q2 of 2022. With this the ICT unit was able to complete the eursc.eu project and establish a central administrative network between schools and OSG.

## 3.2 Audits on Network performance and security

The second focus was on the system and network security. The modernisation of the networking infrastructure initiated during the previous years was continued. Several assessments projects have been done to create an understanding for the current IT security situation and facilitate a GAP analysis.

Two major audits were carried out, one for understanding about the network traffic on O365 (NPA) and other to understand about administrative network and infrastructure status. With the results received the System team was able to identify and mitigate the risks. Few of the tasks are planned for 2023 in the form of migration and upgrade projects to mitigate the identified risks.

## 3.3 Data Centre improvements

The data centre was severely affected during the end of 2020 and later in 2021 by several major incidents, such as the total failure of the cooling equipment and a fire incident. Both cooling cabinets failed simultaneously which resulted in the loss of several servers and services which were recovered thanks to the implemented fail-over solutions. In 2022, the System team verified the new solutions and its way of working and identified some issues which has led for few minor and 2 major incidents. Maintenances were carried out with the external vendor to improve the situation.

For avoiding future incidents, the overall data centre solution has been reviewed and maintenances were carried on the following tasks:

- Securing the power supply by installation of new UPS solution on the patch panels.
- Failure of the generator has caused a major incident during 2022. Generator tests carried out to check the efficiency and resolve the issues related to the generator failures by external vendors.
- Issue with the UPS has been identified and steps were taken to remediate the issues. Further work related to the issues on UPS will be carried out in 2023.

## 3.4 Skype for Business to MS Teams migration OSG (Telephony Solution)

Skype for Business solution expired on July 31, 2021. To modernize the OSG telephony system, the solution was migrated from Skype for Business to Microsoft Teams. MS Teams extends the capabilities of Skype for Business, bringing together chat, meetings, calling, collaboration, app integration, and file storage into a single interface. MS Teams helps streamline the way users get things done, improving user satisfaction, and accelerating business outcomes.

The System Team replaced the physical Polycom phones with new Yealink telephony devices but also provided the possibility of having softphone embedded in the MS Teams application (removing the physical phone dependency), which will allow users for seamless usage everywhere (working from home or abroad even) and reduce the cost of physical phones for the organization.

### **3.5 MS Exchange migration (2013 to 2019)**

Microsoft Exchange 2013 was declared end of life in August 2022 and the physical server's maintenance end date was November 2021. Upgrade of the physical servers and functionality from MS Exchange 2013 to MS Exchange 2019 was mandatory. The System Team took this opportunity to modernize the hardware and increase the size of each mailbox for all the users in the administrative network and segregate the databases as per each school. This improvement allowed for the reduction of the latency during the e-mail flow (making the e-mail flow faster), provide better security and enable some new functionalities on Microsoft Teams like Calendar sync from outlook and possibility to start meetings directly on the MS Teams app.

In addition, to perform the Exchange upgrade it was necessary to have the Domain controllers on minimum version of 2016. A separate project has been carried out to migrate the Domain controllers from version 2012 to 2016. For further information about this migration projects in section 3.10 and 3.11.

### **3.6 Patch Panel rooms and warehouse clean up, organization and material preparation for disposal.**

All the 3 patch panel rooms, and warehouse were cleaned and tidied up following the regulations and normative applicable. All the material (cable, connectors, monitors, blades, servers, projectors, etc) was classified and organized for having a better visibility and make it easier to find. In that way, unnecessary accident can be avoided.

On the other hand, all the old and out of maintenance material was identified and moved to a temporary room on the -1 floor at OSG. A company was appointed to remove the material and destroy it according to GDPR regulations and sustainable material disposal normative.

### **3.7 Reinforcement of the Azure cloud environment**

With the aim of providing a better, more secure, and reliable cloud environment, the System team have started a project named Azure Cloud Foundation. This will facilitate the move of more services to cloud environment and reduce load on the physical datacentre. The preparation of this project was done in Q2-Q3

2022, and the initiation phase started in Q4 2022 with collecting all the information on the existing MS Azure environment. The Project will take place in multiple phases and is expected to end in Q2 2023.

During the data collection phase, several security risks were identified on the Azure environment and immediate actions has been taken to mitigate the risk and avoid further issues.

### 3.8 New, improved Backup solution

A new backup solution named Microsoft Azure Backup Server has been initiated and introduced. The aim of the new backup solution is to have an up-to-date copy of the data that can be used for restoring the original data if it is lost, corrupted or in case of disaster. This new solution brought several benefits such as data loss prevention, improved business continuity, cost savings, and flexibility to recover the data. Additionally, the new solution provides support to have multiple ways of data backup, integrating the possibility to move copies in cloud in order to have redundancy and georedundancy.

### 3.9 New Wi-Fi solution

Following the demand coming from the lack of Wi-Fi for staff member working on 3<sup>rd</sup> floor at OSG and the need to create a better user experience for guests visiting our premises or attend important meetings, equipment was acquired, and a new wireless solution called Cisco EWC (Embedded Wireless Controller) was implemented during Q3-Q4 2022 covering 2<sup>nd</sup>, 3<sup>rd</sup> and –1 floor at OSG. The main meeting rooms (Platon and Montessori) were reinforced with additional access points to improve the user experience.

The new Wi-Fi solution facilitates a better control over the Wi-Fi infrastructure, centralized management through a Web User Interface which provides monitoring capabilities, redundancy features, asset management and better accessibility to the end users due to the extended compatibility. The former Wi-Fi system was decommissioned.

This project was used also as an opportunity to implement a more understandable naming convention so all the employees and guests at OSG can easily identify the targeted Wi-Fi:

- EURSC – for internal OSG usage.
- EURSC Guest – for guest users visiting the OSG premises.

### 3.10 EURSC Domain Controller migration (2012 to 2016)

Microsoft Windows Server 2012 was declared end of life from October 2022 and physical server's maintenance end date was November 2021. EURSC Domain Controllers contain the Active Directory used for all the OSG staff members and is a key part of the ES infrastructure.

In continuation of a project started in 2021, the goal was to migrate the entire Domain Controllers structure by end of August 2022 to meet the current IT standards and unblock further migration projects (for instance, MS Exchange Migration section 3.5).

This project of Domain Controllers migration on the administrative network from 2012 to 2016 was carried out with support from Microsoft under the MS Premier Support framework which contributed to avoid additional cost and delays. Implementation was successfully performed with zero downtime and seamless transition.

### **3.11 Scholae Domain Controller migration (2012 to 2019)**

Microsoft Windows Server 2012 was declared end of life from October 2022 and physical server's maintenance end date was November 2021. Scholae Domain Controllers contain the Active Directory of all the students and teachers at the European Schools (around 32.000 accounts), is a strategic part of the ES infrastructure and is crucial for the well-functioning of the schools.

Based on the importance of this migration, roadmap describing all essential steps was developed, and shared within the ICT Teams of the 13 European Schools. The project was planned to be conclude by the end of November 2022 for meet the current IT standards. This was successfully performed with zero downtime and seamless transition.

In this case, it was decided to migrate from 2016 to 2019 version which allowed the System Team to raise the forest functional level to a 2016 which improved the domain capabilities.

### **3.12 Distributed File Server (DFS) migration (2012 to 2019)**

Microsoft DFS Server 2012 was declared an end of life from October 2022 and physical server's maintenance end date was November 2021. After the EURSC Domain Controllers migration project to 2016, the DFSR Server migration from 2012 to 2019 was unblocked.

DFSR 2019 is efficient multiple-master replication engine that can be used to keep folders synchronized between servers across limited bandwidth network connections. It replaces the File Replication Service (FRS) as the replication engine for DFS Namespaces 2012 and helped the System Team to resolve some major issues experienced with Profile and Files synchronization.

New targeted version DFSR 2019 was achieved with an extremely limited downtime and always providing full availability to the use of the user profiles.



### 3.13 New Exchange Load Balancing solution

One of the major issues experienced in the European schools was related to big latencies during the e-mail flows. To improve the e-mail performance, a new load balancing solution was introduced for the e-mail traffic based on pfSense operating system (Linux) which uses a load balancer capability to share the load across multiple servers, so the load is balanced over all servers instead of stressing out just one server. In addition, pfSense comes with an inbuilt firewall which provided the capability to secure the traffic passing through.

After successfully adding the new Exchange Load Balancers to the email flow, latency decreased for internal and external e-mail traffic and the performance increased with more secure traffic.

### 3.14 New Load Balancers for internal and external traffic

After successfully implementing Exchange Load Balancers project, it was decided to introduce the same architecture and Load Balancing solution to handle all the internal and external traffic based again on pfSense operating system (Linux).

For Internal and External traffic, the main objective was to reach High Availability (HA) by introducing CARP Failover (which works in an Active-Standby mode) replicating configuration between the Load Balancers group. The pfSense provides a user interface where we can perform the configuration and check the status and statistics for the real Internal and External traffic, allowing us traffic segregation and a better narrow down of the issues.

### 3.15 New Kelio Pro support project for HR

As the contract for the solution used by HR to handle staff availability and attendance (Kelio) ended in October 2022. The System team was engaged with a matter of urgency to support Human Resources Unit with a project to support an upgrade from Kelio to Kelio Pro tool. The new Kelio Pro solution introduced provides support for clock-in/clock-out functionality required for time management,

Bodet (Kelio tool vendor) requested the preparation of a Virtual Machine with special specifications, the creation of a SQL Data Base to host their service, and for support during the entire deployment process. The project was delivered on time and allowed HR to meet their timelines.

### 3.16 SQL modernization

The current SQL product version used at the ES is 2012 with end of life expected in August 2023. The SQL databases are playing a significant role for the business continuity and the proper functioning of the applications and services of the European Schools.

For this project the System Team was heavily impacted by equipment delivery delays. Accordingly, it was necessary to procure a special warranty extension for the licenses in current SQL Servers for mitigating the risks. In preparation for SQL Servers migration and SQL product version upgrade an SQL Assessment was performed with the support of Microsoft (under MS Premier framework). The main objective was to determine the SQL data base's health status and target the correct version for migration. The outcome of this assessment was a checklist with the pre-requisites for the migration.

All the preparations required for the migration from 2012 to 2019 SQL version were concluded during 2022. Everything is ready to start the migration project in Q1 2023. The finalization is expected at the end of Q2 2023.

### 3.17 M365 Modernization and security establishments.

Several assessments projects have been initiated within Microsoft Premier service, such as the Network Performance Assessment on M365, the MS Teams Governance project, with the goal of identifying configuration and procedural shortcomings and achieving simplifications whenever that was possible as well as for creating detailed plans for the necessary updates.

Microsoft Premier Support contract played a significant role during 2022, providing expertise and support when it came to incident resolution and mitigating the risks found during the assessments performed.

### 3.18 Microsoft Teams Meeting Rooms project for OSG.

A site survey was conducted together with a Microsoft and a Proximus experts to investigate the possibility to improve the meeting rooms functionality at the European Schools and specially for the needs at the OSG. With the results of the assessments, it was decided to implement the Microsoft Teams Rooms (MTR) solution as it provided the possibility to support hybrid meetings with a user-friendly interface, additional flexibility, and a better secured environment. The MTR Proof of Concept (PoC) was prepared at OSG and multiple tests were conducted to check the usability and if the product functionality met the requirements and

expectations. After a thorough evaluation, several demonstrations were provided to different stakeholders. After final decision, two MTR meeting rooms were implemented with the possibility to support Hybrid Meetings (Montessori and Comenius). This was highly appreciated by the staff at the OSG. Accordingly, the implementation of this solution in additional meeting rooms was requested.

The continuation of this project will take place in Q1 & Q2 2023 with the preparation of additional meeting rooms at the OSG. Demonstrations are planned for the schools with the objective to offer support for similar solutions for the schools.

### **3.19 Evere school Microsoft Teams telephony solution.**

The Successful project of Skype for Business to MS Teams telephony migration at OSG provided the possibility to extend the project further to the European schools.

This solution was offered to the school of Evere, as telephony solution was missing at this new school location. The MS Teams Telephony solution was successfully implemented at the Evere site. This was the first school with fully functional MS Teams telephony solution. After this successful project the Woluwe and Laeken schools showed interest for the possibility to introduce this solution as well.

### **3.20 Network Infrastructure improvements at the OSG.**

During 2022, the System Team have performed multiple upgrades on the Networking infrastructure at OSG, specially related with all the outdated and out of support switches. Two patch panel rooms on the 2<sup>nd</sup> floor and 1 on the 3<sup>rd</sup> floor was completely renewed and switches upgraded to the Cisco 9300 hardware.

This modernization unblocked the MS Teams Telephony migration, the MTR Rooms implementation for hybrid meetings and the Wi-Fi renovation projects. This upgrade made also possible to prepare the network infrastructure for the introduction of a centralize management system with support for intelligent network monitoring solution and advanced security features.

A Network Audit project was initiated in Q4 2022 with support from Proximus Luxembourg for assessing the possibility of simplifying and rearchitecting the current, complex, networking infrastructure at the OSG, as well as for properly preparing the firewalls replacement project foreseen for 2023.

## 4. Development and Statistics Sub-Unit

### 4.1 School Management Administrative Application (SMS)

The Change Advisory Board (CAB) of SMS continued its meetings to analyse, prioritise and deploy the features requested by the business. The CAB met 9 times in 2022 with the same composition, namely:

- OSG ICT Development Head of Cell
- OSG ICT Service Desk Head of Cell
- OSG ICT Head of Unit
- 2 SKUs (and also IT representative) from Woluwe and Luxembourg School
- MySchool Owner
- MySchool Technical Expert

In 2022, the CAB has enabled the implementation of various functionalities such as enhancements related to the Baccalaureate module, announcements updates, and various interfaces.

However, many improvements are still in the queue and need to be analysed. We quickly realised that means had to be put in place to further test all the improvements offered by MySchool and that the CAB alone could not accomplish its tasks without the help of the SKUs (SMS referent within the school).

A session was also given to the SKU to present the objectives and the need to have their support, especially during the testing.

A Microsoft Teams has also been created to collect the needs of SMS users, from the perspective of the administration to the teachers, parents, and students. The idea is to consolidate all the need, sort and prioritise them in order to build up a solid set of specifications to be presented during the call for tenders to replace SMS.

### 4.2 Statistics Platform – SAP Business Objects – Power BI

During the past year, in the context of the online Enrolment Form project, several reports were made for Central Enrolment Authority team with Power BI.

Furthermore, to be able to build printable reports the tool "Power BI Report Builder" was used, which gave a deeper view of the Microsoft's reporting tools capabilities. In parallel, SAP BO was still used to make official statistics to address pedagogical report requests.

### 4.3 Development of an Application “TaxBox” for the Differential Adjustment

The in-house customized Web application Taxbox is developed for replacing a 20-year-old Microsoft Access application, which has been able to facilitate the documents and financial data sharing between the OSG's Differential Adjustment Sub-Unit and the administrative staff of the schools since the application went live in September 2021.

In 2022, in order to match the change of the data provider CIPAL in April 2022 where the entire salary calculation of the seconded staff members is processed in SAP, the most important change of Taxbox is the functionality of SAP import. So far, Taxbox could invoke two new SAP Web APIs to synchronize the identity data and corresponding fiscal data of the seconded staff members.

Additionally, Taxbox also provides users with richer retrieval functions to help Differential Adjustment cell monitor the process status of seconded staff in each school.

### 4.6 Identity Management (MIM)

As is the case each year, the change of school year in SMS (done in mid-July 2022) led to the creation of new teacher and student accounts and the updating of all the appropriate lists.

To support the project, the contract with the Predica company was extended in order to allow day-to-day assistance to be provided for synchronisation of data in a test environment and performance of qualitative tests.

Thanks to the smooth operation of the Data Warehouse, to the use of the test environment and to the contribution of all IT teams, the beginning of the 2022-2023 school year and the creation of TEAMS 2022 were able to start without major problems.

### 4.7 Master Data Management & Central Enrolment Authority (MDM-CEA Project)

The 22-23 enrolment campaign of Brussels European Schools has opened, and more than 2000 applications were registered by the parent on the new solution.

As with any first go-live, final adjustments had to be made to the registration form portal (front-end) as well as to the solution used by the secretaries to manage the life cycle of the application (back-end). This first enrolment campaign allowed the end-users to get accommodated to the new solution and the IT development team to gain more and more confidence and skills.

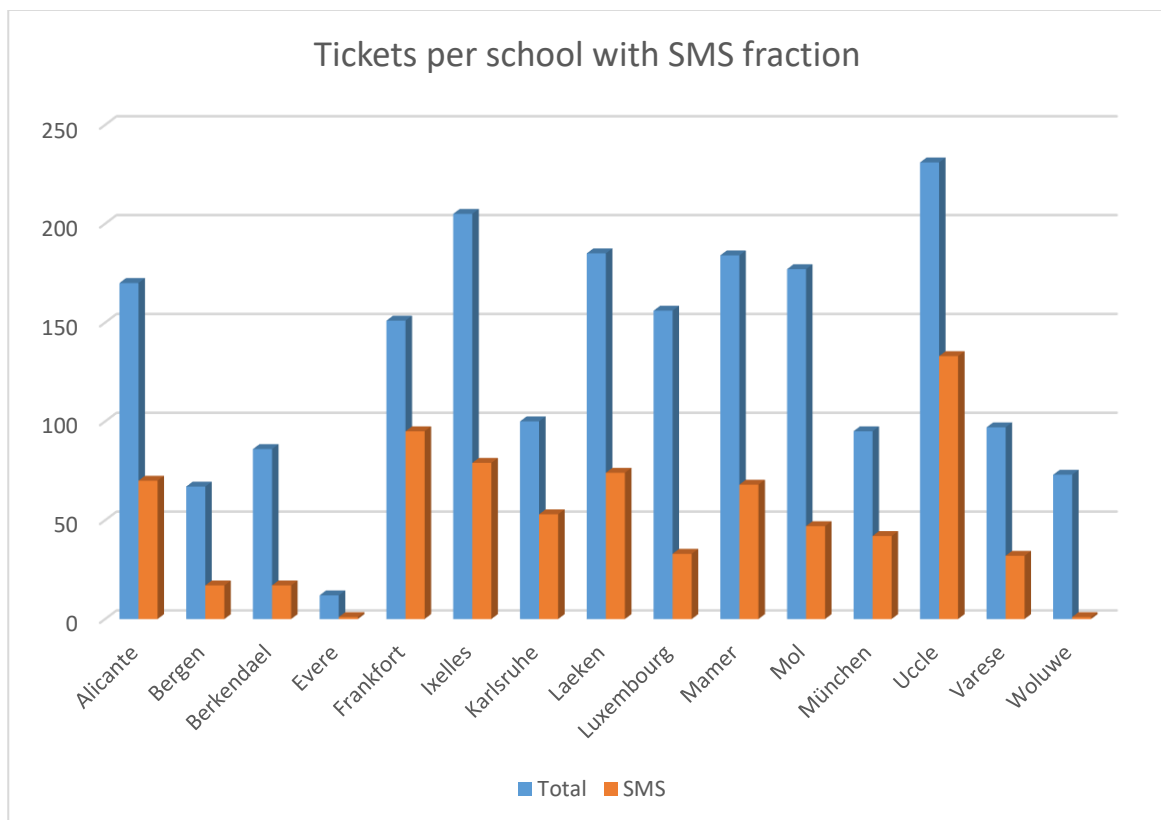
A maintenance contract was set up with a Microsoft gold partner company to provide a safety net. In addition, the IT team could rely on direct contacts with Microsoft to assist in case of problems.

The campaign ended without any major problems.

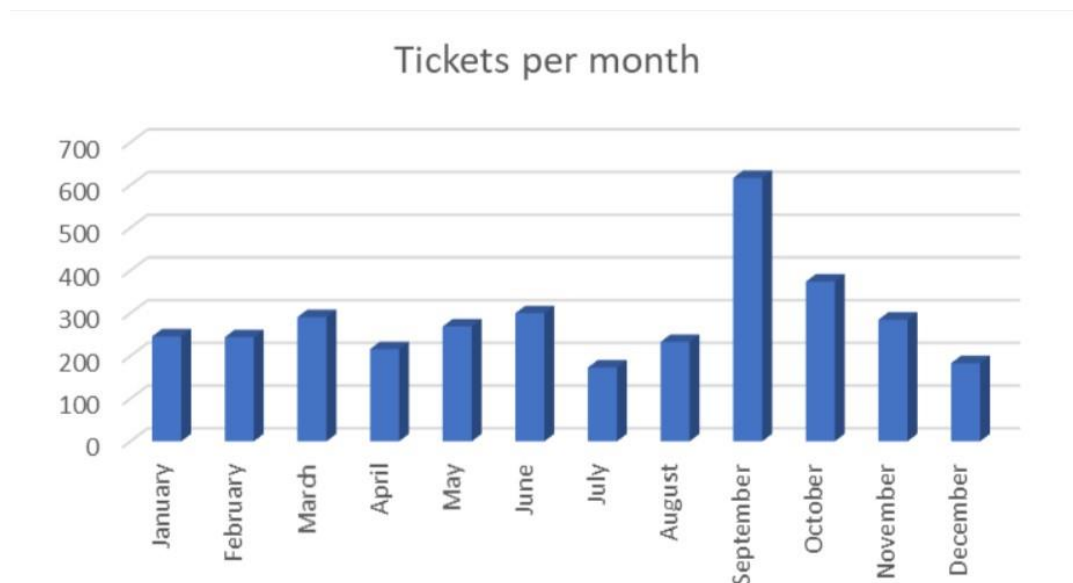
## 5. ServiceDesk Sub-Unit

In 2022 a total 3431 tickets have been sent by the ICT departments of the schools, the personnel of the OSG, the national inspectors, heads of delegation and other stakeholders. Of these tickets 1442 tickets were created for the members of staff of the OSG, the inspectors, experts, and other stakeholders. Most of the support requests created by the schools originated from the different procedures in the latest version of SMS and the creation of Office 365 accounts.

This is a repartition of the tickets generated by the schools with the fraction of SMS-related tickets:



The total tickets generated per month is:

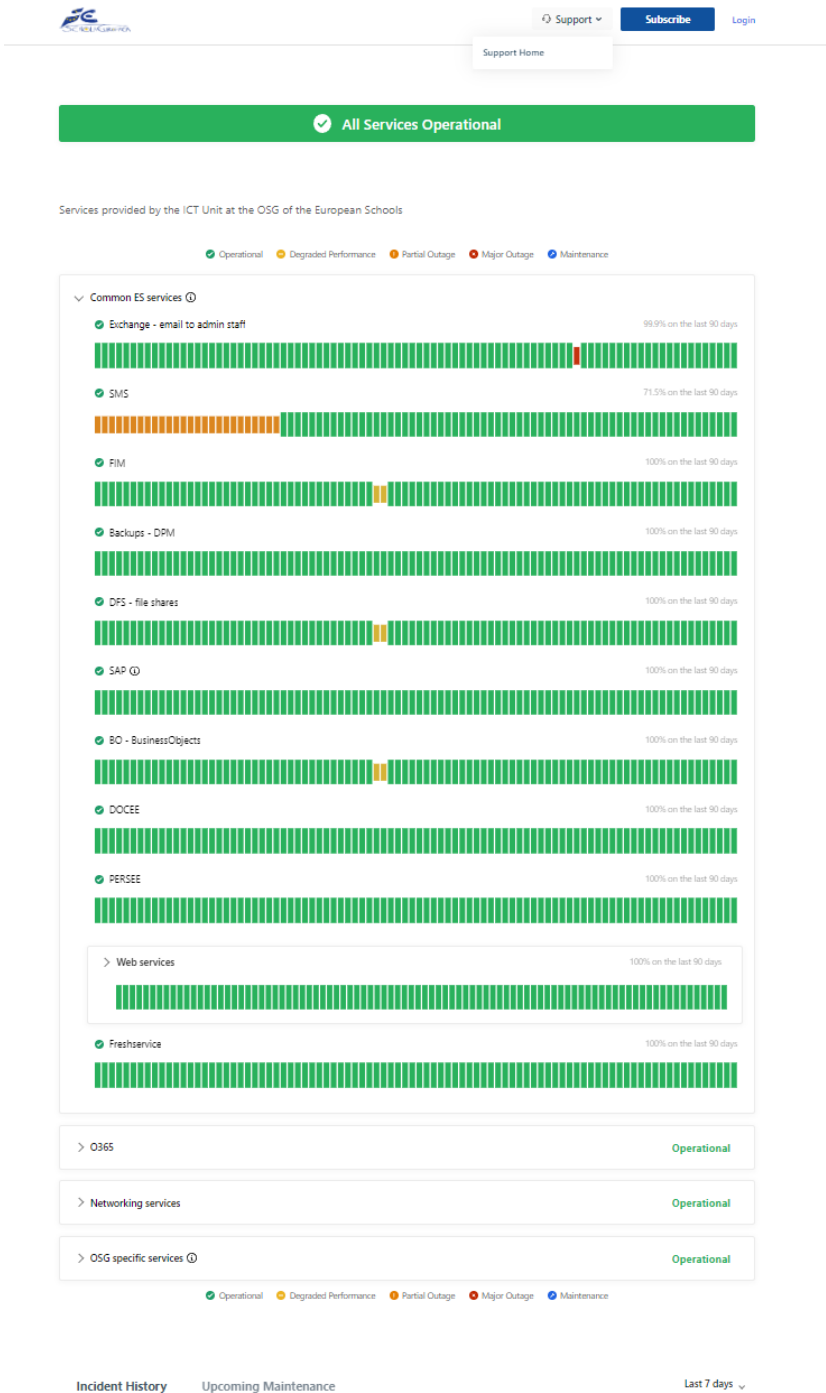


Other principal areas of activities of the ICT ServiceDesk were:

- The logistical and technical support for different in situ meetings in the offices of the OSG.
- The technical support for the use of the new SharePoint sites of the schools, which have been created to facilitate the access to the documents of the Administration Boards of the schools.
- Support for the preparation of the deployment plan of the new licenses of Microsoft Office 365.
- Supporting the different users and stakeholders in the creation and use of MS Teams.
- Providing support for the different meetings done remotely and in situ.
- Assisting the Digital Pedagogy Assistant.
- The ICT Servicedesk is an active participant in the SMS Change Advisory Board.

The new ticketing solution (FreshService) that was introduced in 2021 has now also been made available for the schools of MAM and LUX, the SAP Team, and the OSG ICT Project Support Office.

Since the new helpdesk tool also offers the possibility of asset management, this has been implemented in an automated way so that assets are entered in the system. In 2022 a tool has also been introduced to enable the easy monitoring of the services offered to the schools and our stakeholders, a status page: <http://status.eurisc.eu>. All critical services are listed with their up and downtime. Cfr. The following screenshot:



Finally, the ICT ServiceDesk provided extensive support for the different projects of both other subunits of the ICT & Statistics Unit (Development and System).



## 6. Implementation of the PM<sup>2</sup> Project management methodology at OSGES with the focus on IT Projects.

Following from an IAS recommendation<sup>5</sup> (IAS Strategic Internal Audit Plan 2019 – 2021, Ref. Ares (2018)6218759 - 04/12/2018 and IAS IT Governance Audit (2022)), the Head of the ICT Unit initiated tailoring and implementing the PM<sup>2</sup> and PM<sup>2</sup> Agile methodology for the purpose of increasing project quality and success. Moreover, he started development of a Project Portfolio Management, that would facilitate better control over portfolio performance and spending.

In the last couple of years, the OSG ICT Unit took some steps towards adopting the Project Management Methodology of the European Commission (PM<sup>2</sup>). Most of its staff members have been trained, which raised the overall Project Management maturity level within the organisation, however it was never used in practice due to the staffing issues and general lack of experience in professional Project Management within the Unit. Also, one of the staff members was certified in PM<sup>2</sup> and PM<sup>2</sup> Agile and was appointed to conduct the current project of tailoring and implementation of PM<sup>2</sup> Agile within OSGES ICT Unit. The official adoption and support of PM<sup>2</sup> at OSG ICT through a more systematic, more streamlined, and supported manner will also provide the organisational enablers necessary for the achievement of the desired goals.

The mission is also to provide a general PM<sup>2</sup>-Agile training to the OSGES ICT staff members on the main concepts, the phases, the roles and responsibilities in the project, the expectations etc. The objective is to increase their awareness of their involvement, their commitment and efficient contribution to the projects.

Improving the Unit's project management practice is urgent because a significant number of projects within the Unit are substantially delayed or exceed the planned budgets.

The chosen methodology, PM<sup>2</sup> is a Project Management Methodology developed and centrally supported by the European Commission (EC) with a full training and certification programme available to all EC staff. Unit-wide adoption of the PM<sup>2</sup> best practices will significantly increase the maturity of project management within the Unit and address many of the problems mentioned earlier. It will also provide a clearer connection of project work performed to Unit/Business/EC strategic objectives and offer better visibility to project progress and overall strategy implementation.

---

<sup>5</sup> IAS Strategic Internal Audit Plan 2019 – 2021, Ref. Ares (2018)6218759 - 04/12/2018 and IAS IT Governance Audit (2022)

To help ensure that the implementation of PM<sup>2</sup> in OSGES is institutionalised and becomes the standard



practice on how projects are implemented, a project office is typically established to support and provide guidance to not just project managers but also management in reporting, monitoring, and controlling, and compliance. Besides PM<sup>2</sup> project management methodology, PM<sup>2</sup>-PgM (Programme Management) methodology for programmes, and PM<sup>2</sup>-Pfm (Portfolio Management) for portfolio is elaborated here as well. A full development of the PSO to a PMO in 2023 is proposed to provide portfolio reporting for programmes and projects in OSGES for more effective resource management and planning, financial commitments, and variance analysis.

The reasons for using PM<sup>2</sup>-Pfm methodology includes the following:

- Structural: ensure tighter alignment between OSGES's corporate strategy with the implementation of programmes and projects, provide clearer roles and responsibilities for accountability, and focus programme and project outcomes to Units and Cells in OSGES
- Tactical: standardised processes in how programmes and projects are managed and controlled with the relevant performance metrics
- Executive Support: provides visibility to programmes and projects through communications and ensure executive sponsorship.
- Portfolio: ensure portfolios are aligned to strategic goals, financial metrics, and resource planning and management
- Organisation: helps in integrating change management by standardising portfolio management practices so that change is transformative, across the board, and is sustainable, rather than ad-hoc and point-in-time
- Benefits: helps in tracking benefits for realisation for accountability and measurement at corporate level.



The PM<sup>2</sup> definition of portfolio management is a collection of programmes, projects and other work-packages grouped for better control over financial and other resources to facilitate effective management in achieving strategic objectives. PfM is thus about selecting the optimal mix of programmes and projects to align the organisation's investments with the corporate strategy to optimise the organisation's benefits.

Key to understanding portfolio management is the dual operating model of organisations where an entity has operational and delivery<sup>5</sup> sides; see above diagram. Because organisations have finite resources in time, funds, and people; it is imperative for them to maximise operational efficiencies needed to manage business-as-usual activities with maximum effectiveness in the rapid development of new ideas and models. The outputs on the delivery side will accrue to the operational side of the organisation and the outcomes and benefits accruing to the corporate strategy. The organisation's strategic objectives will determine the optimal mix of operations and delivery thus providing the priority guidance on the use of resources at the portfolio level.

PfM provides the processes and structures to figure out what work should be done first, and the rest phased over time; and it aims to provide management with timely consolidated information in order to be able to make high-quality decisions.

When we map the PM<sup>2</sup>-PfM model against the ICT unit in OSGES, the diagram below shows how OSGES's processes fit within it. The ICT strategy is set by the corporate strategy which essentially means this is what OSGES will achieve during the life of this corporate strategy. The ICT portfolio could be split into multiple projects within the Development, Systems and Service Desk cells.

## IV. ICT plan for 2023

### 1. IT Governance: The IT Strategy Group

The Strategy Group will continue to give guidance to the OSG and in particular the ICT Unit. It will have to follow the continuation of 'Data Governance Concept' started in 2020 that contains the different projects which were approved by the Board of Governors in April 2020. The MDM/CEA project successfully completed in 2021 needs to be extended to the other Schools which were not involved in the initial project.

During 2023 the IT Strategy Group will focus on the implementation of the multi annual ICT plan for 2022-2026. A particular attention will be given to the improvement and reinforcement of the ICT infrastructure and the core services provided by the ICT unit as outlined in the multiannual ICT Plan 2022-2026. The reinforcement of the IT security is a high priority objective.

For 2023, another main focus will be the implementation of the IT Governance Audit recommendations.

Moreover, the Strategy Group will also support the ICT Unit in the ongoing efforts for improving the overall IT-service quality as well as for providing better efficiency and end user satisfaction.

The tables lines below in this Section are referring to the corresponding operational objectives defined in the Multiannual ICT Plan (2022-02-D-6-en-2 Proposal for the Multi-Annual ICT Plan of the European Schools – 2022-2026).

In Annex 3 a summarised list of envisaged projects are presented for facilitating better overview.

### 2. Common projects for the ICT Unit at the OSG

For improving the efficiency and the quality of services provided by the ICT Unit a number of projects will be conducted primary at the unit level but also in collaboration with the IT staff at the schools.

#### 2.1 Improvement of the IT Service Management

During 2022, the methodology used for project management has been in focus and the PM2 methodology has been adopted. During 2023, focus will be on improving the methodologies and the toolset used for IT service management. Additional trainings are planned for improving furthermore the competency in the ITIL framework.

Corresponding operational objectives from the Multi-Annual ICT Plan:

1.5	Improvement of the incident and problem management processes	Clear, well-defined process description used on daily basis
1.7	IT Service management based on ITIL best practices	Implemented central ITIL processes

## 2.2 Improving Planning and Prioritisation

Further improvement of the planning and prioritisation is still necessary. This toolset was used for supporting agile methodologies and planning. The goal is to continue improving the methodologies and to enable more granular information management, sharing plans and priorities with stakeholders but also for enabling necessary follow-ups and measuring goal efficiency. IT project portfolio management is one of the methodologies in need of refinement and consolidation.

1.7	IT Service management based on ITIL best practices	Implemented central ITIL processes
-----	--	------------------------------------

## 2.3 Improving Communication and Collaboration

Communication and collaboration with all stakeholders are crucial for being able to provide highly efficient IT services and support. Several steps have been taken during past year for achieving a general improvement of the communication between the ICT unit and its stakeholders. Most notably, improved communication with the IT technicians at the schools, improved project management, inclusion of stakeholders in Change Management. This work will continue in 2023.

6.1	Develop ICT communication strategy	Communication strategy in place and used
-----	------------------------------------	--

## 2.3 IT and Information Security

The IT and information security management at the ES was assigned highest priority. This area has been pointed out by several different auditors as being at a considerable risk.

As the follow up on the IT Security assessment, the following steps will be carried out during 2023:

- Further evaluation of the results and recommendations from the ongoing IT security assessment.
- GAP analysis of the IT security after which a new IT security roadmap will be formulated.
- Stepwise reinforcement and improvement of the general IT security at the ES and the OSG.

<b>4.1</b>	Perform an independent, third party conducted IT-Security assessment	Assessment report evaluated and followed up.
<b>4.2</b>	Implementation of the identified action points/recommendations	Action points and recommendations have been acted upon
<b>4.5</b>	Develop an ICT risk register	ITC risk register introduced and updated regularly
<b>4.6</b>	Introduce the Zero trust security model	New security model introduced and used

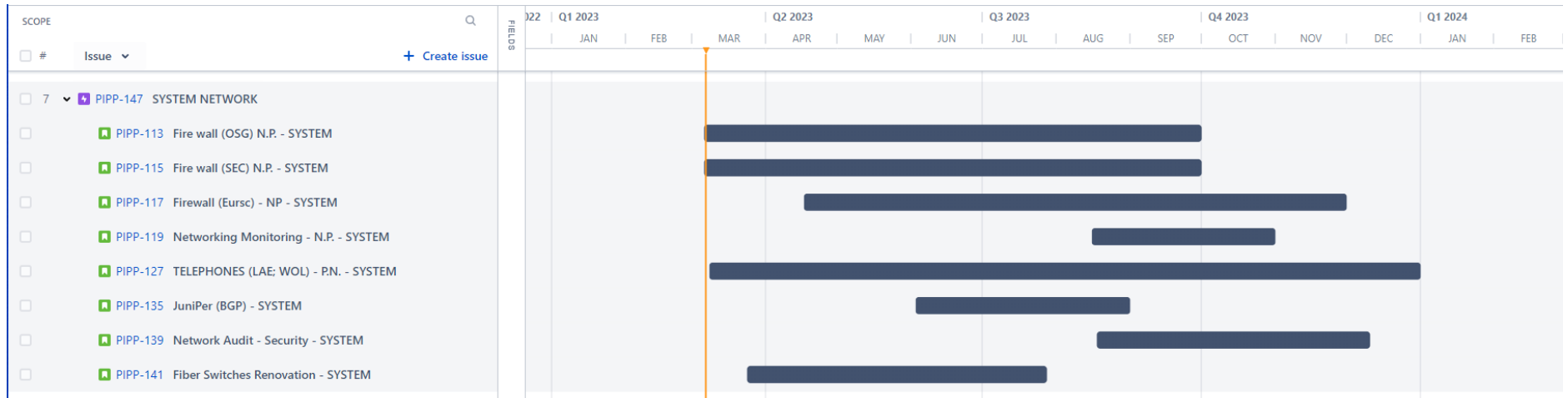
### 3. System and Networks Sub-Unit

In 2023, the System and Networks Sub-Unit will tackle the ongoing projects envisaged in accordance with the revised list of priorities. Major goals will be to finalise the projects which have been initiated during past years such as the migration and modernisation of SQL, MS-Teams Meetings Rooms at OSG, and to renovate the Hyper-V infrastructure and Physical servers to avoid having material and services in End of Support (EoS) and/or End of Life (EoL).

The migration of some central services to the Cloud and the Azure Roadmap will continue, with the multiplication of services provided in the Azure environment and Office 365, which is the European Schools main collaboration platform for education. Restoration of the DPM, backup solution, at schools and adding a secondary backup solution (as Azure Backup/Veeam), IT Security Audit (Proximus), Domain Controllers migration, SQL Licenses upgrade and migration and hardware replacement, ASA Firewalls replacements (yet to decide the replacement product), VNX replacement with Power Store and Secondary DFS replication are the projects with the highest priority.

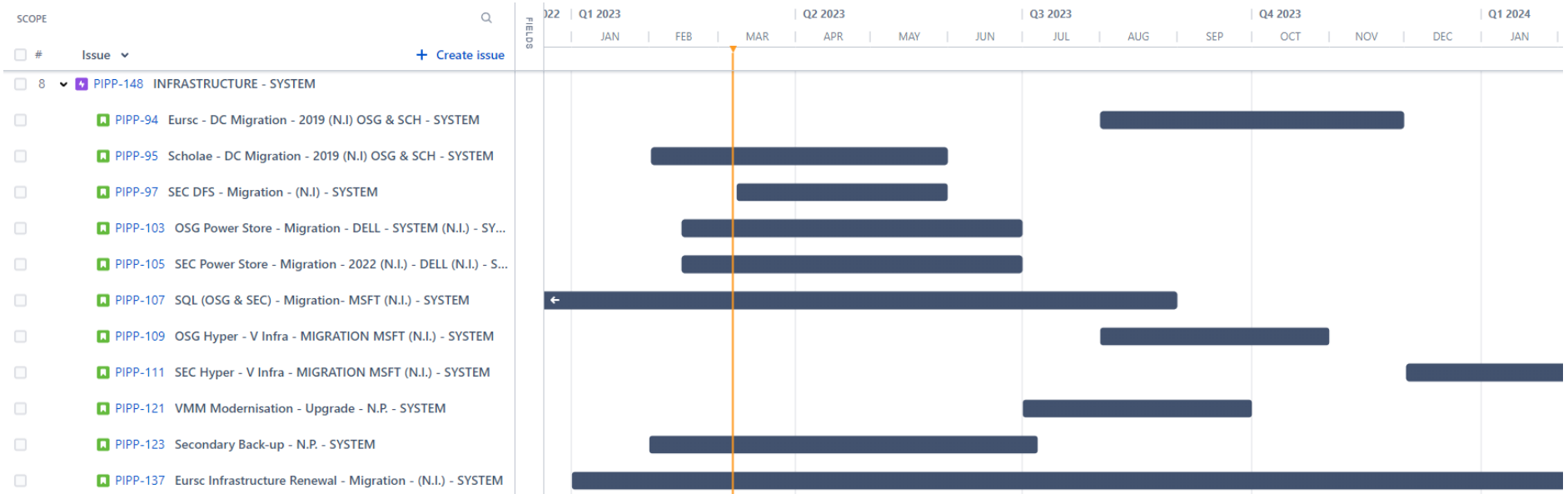
I

In addition, along 2023, System and Network Team will also work on MS Teams Governance, Telephony migration (EVE, WOL, LAE), Juniper migration, Storage replacement replacement (new DELL NX), new Hyper-V installation and configuration, OSG CORE Switch extension on Server Room, Backup migration, SEC-DFS migration and OSG-CORE switch will be expanded. The detailed roadmaps for the System Sub-unit.



The roadmap for the network reinforcement projects.

The roadmap for the IT operational infrastructure projects





Continuous improvement of the system documentation and knowledge sharing will remain an important objective for the System team although providing service continuity will remain the first priority.

Corresponding operational objectives from the Multi-Annual ICT Plan:

1.1	Introduce monitoring solutions for ICT systems and services	Monitoring solutions in place and used on daily basis
1.2	Minimize the number of incidents and service disruptions	A baseline will be implemented and used. Definitions in place for incident and disruption levels acceptable for the stakeholders.
1.3	Refactoring and reinforcing backup solutions	Reliable and tested backup solutions in place
1.5	Improvement of the incident and problem management processes	Clear, well-defined process description used on daily basis

### 3.1 Full list of System/ICT infrastructure related projects:

#### NETWORK INFRASTRUCTURE PROJECTS:

All System network, system infrastructure and cloud environment projects are covered in the 2023 ICT budget with a few projects planned for the budgetary year 2024.

1.	Project Name	Background	Foreseen benefits	Estimated financial impact	ICT budget line
1.1	Firewall (OSG, SEC & EURSC)	Current firewalling is end of life of hardware, for centralizing the firewalls of the ADM network, new modern firewalling has been chosen and will be introduced	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Improved accuracy</li> <li>• Better communication</li> <li>• Increased accessibility</li> <li>• Improved security</li> <li>• Standardization</li> <li>• Centralized Management</li> <li>• Enhanced data governance</li> </ul>	48 000,00 EUR	Hardware Network Infrastructure

1.2	Network Audit - Security	Goal to review the network level architecture of ADM network. An audit is being performed by Proximus.	<ul style="list-style-type: none"> <li>• Enhanced governance</li> <li>• Assessment of the Network Architecture</li> <li>• Mitigation of risks related to the network and ICT security.</li> <li>• Increased efficiency</li> </ul>	Project was initiated in 2022, and financial resources were reserved.	Hardware Network Infrastructure
1.3	Fiber Switches Renovation	Hardware of the machines are out of warranty.	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Improved accuracy</li> <li>• Increased accessibility</li> <li>• Improved security</li> </ul>	35.000 EUR	Hardware Network Infrastructure
1.4	IP telephony support for the schools of LAE & WOL	This is an extended project for the modernisation of telephony solution at schools	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Increased accessibility</li> <li>• Improved customer satisfaction</li> <li>• Improved data quality</li> <li>• Enhanced reporting and visualization</li> <li>• Improved data security</li> <li>• Improved collaboration</li> </ul>	Investments on the budget of LAE & WOL	NA
1.5	JuniPer (BGP)	The BGP routers are out of warranty which. This equipment is crucial for the organizations network for managing the inflow of the data traffic. The machines are out of warranty and at the end of sales.	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Improved accuracy</li> <li>• Increased accessibility</li> <li>• Improved data security</li> <li>• Increased Security</li> </ul>	20,000 EUR	Hardware Network Infrastructure
1.6	Networking Monitoring	To have better control and understanding about the inflow and outflow of the network traffic a monitoring solution is required. During 2023 a project will be initiated for finding an optimal solution. Procurement and execution is planned for 2024	<ul style="list-style-type: none"> <li>• Improved decision making</li> <li>• Increased efficiency</li> <li>• Improved data quality</li> <li>• Enhanced reporting and visualization</li> <li>• Improved data security</li> <li>• Increased agility</li> </ul>	35,000 EUR on 2024 budget	Hardware Network Infrastructure

## SYSTEM INFRASTRUCTURE PROJECTS

2.	Project Name	Background	Foreseen benefits	Financial impact 2023	ICT budget line
2.1	SQL assessment	SQL end of life and to understand the compatibility SQL assessment has been done	<ul style="list-style-type: none"> <li>• Increased accessibility</li> <li>• Compatibility Agreements</li> <li>• Increased efficiency</li> </ul>	Project initiated 2022 with financial resources reserved.	NA
2.2	VMM Modernisation - Upgrade	Product end of life version and needed to migrate to newer version	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Improved accuracy</li> <li>• Increased accessibility</li> <li>• Improved data security</li> <li>• Management stability</li> </ul>	Equipment purchased 2022	NA
2.3	Eurisc Domain Controller migration OSG & SEC	Hardware of the machines are out of warranty	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Improved accuracy</li> <li>• Increased accessibility</li> <li>• Improved data security</li> </ul>	Equipment purchased 2022	NA
2.4	Scholae Domain Controller migration - OSG & SEC	Hardware of the machines are out of warranty.	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Improved accuracy</li> <li>• Increased accessibility</li> <li>• Improved data security</li> </ul>	Equipment purchased 2022	NA
2.5	SEC DFS - Migration	To have a second Backup of Data and to have redundancy of the user data a SEC functional DFS is started. Old Hardware of the machine are out of warranty and OS is going end of life	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Improved accuracy</li> <li>• Increased accessibility</li> <li>• Improved customer satisfaction</li> <li>• Improved data quality</li> <li>• Enhanced reporting and visualization</li> <li>• Improved data security</li> <li>• Improved collaboration</li> </ul>	Equipment purchased 2022	NA
2.6	OSG DM2 - Migration	Hardware and OS are end of life. These are used for Load Balancing.	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Improved accuracy</li> <li>• Increased accessibility</li> <li>• Improved data security</li> </ul>	25,000 EUR	Hardware System infrastructure

2.7	SEC DM2 - Migration	Hardware and OS are end of life. These are used for Load Balancing.	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Improved accuracy</li> <li>• Increased accessibility</li> <li>• Improved data security</li> </ul>	Equipment purchased 2022	NA
2.8	OSG Power Store - Migration - DELL	Hardware and OS are end of life, migration of storage of OSG to new Storage with better view.	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Improved accuracy</li> <li>• Increased accessibility</li> <li>• Improved data quality</li> <li>• Enhanced reporting and visualization</li> <li>• Improved data security</li> </ul>	Equipment purchased 2022	NA
2.9	TEAMS (MTR) - OSG MTR	New project for supporting hybrid meetings	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Improved accuracy</li> <li>• Increased accessibility</li> <li>• Improved customer satisfaction</li> <li>• Improved data quality</li> <li>• Improved data security</li> <li>• Improved collaboration</li> </ul>	Equipment purchased 2022	NA
2.10	SEC Power Store - Migration	Hardware and OS are end of life, migration of storage of SEC to new Storage with better view.	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Improved accuracy</li> <li>• Increased accessibility</li> <li>• Improved data quality</li> <li>• Enhanced reporting and visualization</li> <li>• Improved data security</li> </ul>	Equipment purchased 2022	NA
2.11	SQL (OSG & SEC) - Migration	Hardware and OS are end of life, migration to the new version of SQL with new hardware.	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Improved accuracy</li> <li>• Increased accessibility</li> <li>• Improved customer satisfaction</li> <li>• Improved data quality</li> <li>• Enhanced reporting and visualization</li> <li>• Improved data security</li> </ul>	Equipment purchased 2022	NA

2.12	OSG Hyper - V Infra - MIGRATION	Hardware and OS are end of life, migration to the new version of and with new hardware.	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Improved accuracy</li> <li>• Increased accessibility</li> <li>• Improved customer satisfaction</li> <li>• Improved data quality</li> <li>• Enhanced reporting and visualization</li> <li>• Improved data security</li> </ul>	Equipment purchased 2022	NA
2.13	Secondary Back-up	Stabilizing the Backup for both OSG and Schools and making more cost efficient for schools	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Stable Backup</li> <li>• Cost efficiency</li> <li>• Improved accuracy</li> <li>• Increased accessibility</li> <li>• Improved customer satisfaction</li> <li>• Improved data quality</li> <li>• Enhanced reporting and visualization</li> <li>• Improved data security</li> </ul>	20,000 EUR	Development - investment in updating existing systems and services
2.14	Eursc Infrastructure Renewal - Migration	Hardware and OS are end of life, migration to the new version of and with new hardware.	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Improved accuracy</li> <li>• Increased accessibility</li> <li>• Improved customer satisfaction</li> <li>• Improved data quality</li> <li>• Enhanced reporting and visualization</li> <li>• Improved data security</li> </ul>	No investment needed	NA
2.15	SEC Hyper - V Infra - MIGRATION MSFT	Hardware and OS are end of life, migration to the new version of and with new hardware.	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Improved accuracy</li> <li>• Increased accessibility</li> <li>• Improved customer satisfaction</li> <li>• Improved data quality</li> <li>• Enhanced reporting and visualization</li> <li>• Improved data security</li> </ul>	2024 budget	Hardware System infrastructure

## EUROPEAN SCHOOLS CLOUD ENVIRONMENT

3.	Project Name	Background	Foreseen benefits	Financial impact 2023	ICT budget line
3.1	Compromised accounts mitigation	Improvement of security of the schools and stabilization of user access	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Improved accuracy</li> <li>• Better communication</li> <li>• Increased accessibility</li> <li>• Improved data management</li> <li>• Improved User experience</li> <li>• Improved collaboration</li> <li>• Increased agility</li> </ul>	No investment is needed	NA
3.2	ADFS - AAD - Migration	Migration of user authentication to cloud.	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Improved accuracy</li> <li>• Better communication</li> <li>• Increased accessibility</li> <li>• Improved data management</li> <li>• Improved User experience</li> <li>• Improved collaboration</li> <li>• Increased agility</li> </ul>	No investment is needed Support from MS under the Premiere account program	NA
3.3	Azure Cloud Foundation – MSFT	Cloud journey with assessments that help us measure the difference between our current state and cloud adoption goals.	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Improved accuracy</li> <li>• Better communication</li> <li>• Increased accessibility</li> <li>• Improved data management</li> <li>• Improved User experience</li> <li>• Improved collaboration</li> <li>• Increased agility</li> <li>• Enhanced data governance</li> </ul>	Project initiated in 2022. 125,000 EUR	Innovation – new development and introduction of new services

## 4. Development and Statistics Sub-Unit

### 4.1 School management administrative application (SMS)

The SMS contract with MySchool ends in December 2023. The SMS replacement project was started in June 2022 with the first phase focusing on functional and technical requirement gathering. After analysis of the requirements and alignment with key stakeholders, a gradual, step wise, replacement process has been proposed to the BoG for the SMS solution replacement with several projects focusing on the replacement of different core functionalities of the current SMS system. See document **2023-02-D-44-en-2** for the proposal.

Upon approval from the BoG, a project program will be initiated for implementing the SMS replacement projects.

In the meantime, the maintenance of SMS will continue under the coordination of the Change Advisory Board, the SMS CAB. The main objective is to assess, prioritize and manage requests for change. At the same time, the OSG IT team will continue to monitor the smooth running of the SMS solution.

1.8	Develop and maintain a coherent enterprise architecture.	The architecture is up to date. Interoperability of different solutions is improved and optimized.
-----	--	---

### 4.2 Pre-study for statistics platform – SAP Business Objects – Power BI

During 2023, a pre-study with analysis will be implemented to determine which solution could cover all statistical needs of the ES and verify the security aspects. The project goal is to evaluate the potential candidate tools to replace BO. The main objective is to identify a potential successor for SAP BO Business Objects.

In the meantime, the existing reports made on Power BI for the CEA team will be refreshed and Power BI will be used to build reports for the Differential Adjustment cell.

For the time being, SAP BO platform will be still used to build reports related to pedagogical information.

1.9	Strengthen BI governance for improving reporting, decision making and sharing statistical data	Data quality control solutions are implemented.
-----	--	---

### 4.3 Identity synchronisation (MIM project)

The Predica company's assistance will be required to complete the 2023-2024 school year transition successfully. Alternatives to the robot are being analysed but it is too early to draw any conclusions.

The robot being inter-dependent of on-premises solutions (E.g., Exchange, AD, SQL), it will be necessary to wait for the migration of these solutions to the cloud to foresee the replacement and the modernization of the robot in a long-term solution.

1.8	Develop and maintain a coherent enterprise architecture.	The architecture is up to date. Interoperability of different solutions is improved and optimized.
-----	--	---

### 4.4 MDM-CEA project

The initial project was aimed at modernising school enrolment in Brussels European Schools. The project included the online form, the backend solution as well as the Masterdata layer to guarantee the uniqueness of the persons to be sent automatically to SMS when creating parents and pupils.

Concerning the evolution of the current solution used by Brussels, it should be noted that the enrolment policy rules are iterative and change every year, which requires the IT Development team to modify and adopt the solution accordingly. A contract has also been put in place to ensure the maintenance of the various solutions for the year.

Concerning the continuity of the programme, it will now be divided into 2 separate projects:

1. the Enrolment Management solution (front-end + back-end) where each school will be invited to express its interest in participating in the project.
2. the Master Data Management (MDM) solution where the Central Office will continue its exercise of centralising all resources in order to create a unique database for our entities (pupils, teachers, employees, inspectors, contacts, ...)

In that sense, European School of Mol has expressed interest in modernising its enrolment solution. In order to prioritise and plan the resources needed for this project, a PM2 type business case will be established and shared with the Mol team. Once this document will be approved by the relevant authorities, the project can be planned according to the availability of the team.



1.8	Develop and maintain a coherent enterprise architecture.	The architecture is up to date. Interoperability of different solutions is improved and optimized.
-----	--	---

#### 4.5 Maintenance of and improvements to the application for the differential adjustment cell: TaxBox

Bug-fixes and improvements of data synchronization are scheduled for 2023. Meanwhile, considering the data security, the data export function of Taxbox will be terminated after all the reports based on the requirements differential adjustment cell could be implemented in PowerBI.

#### 4.6 Salary Indexing flow project

The European Schools do not currently have standardised salary indexation procedure which leads to a lack of transparency and increased difficulty to carry out audits or ex-post controls. Therefore, the purpose of this Salary Indexing Flow project is to harmonize the salary indexation process by introducing automatic flows used in SharePoint using Power Automate technology.

The following benefits are expected from the project:

- Better control over the indexations done in different member states.
- Control of the correctness of the adoptions made.
- Availability of supporting documents
- Easy accessibility to the indexation developments
- Utilize available IT resources by using SharePoint ecosystem.
- Gain productivity and facilitate approval process.

A business case was created and approved and the different authorities to plan the execution of this project.

**FINANCIAL IMPACT OF ENVIIONED DEVELOPMENT PROJECTS**

For projects mentioned above and not listed here, financial means budgeted for maintenance will be used.

4.		Background	Foreseen benefits	Financial impact 2023	ICT budget line
4.1	BI Modernisation pre study	The urgency to replace the on-premises BI solution is high, as the current solution is no longer supported and able to meet OSG and European Schools' needs. The management team believes that switching to a cloud-based solution will be more cost-effective, scalable, and secure, and will allow them to access and analyse the data they need to make informed business decisions more quickly and easily.	<ul style="list-style-type: none"> <li>• Improved decision making</li> <li>• Increased efficiency</li> <li>• Improved customer satisfaction</li> <li>• Improved data quality</li> <li>• Enhanced reporting and visualization</li> <li>• Improved data security</li> <li>• Improved collaboration</li> <li>• Increased agility</li> <li>• Enhanced data governance</li> </ul>	<b>24 000,00 EUR</b>	SMS replacement
4.2	Enrolment for MOL	European School of Mol is in urgent need of a modern enrolment portal. By implementing an online enrolment portal, the schools can automate and simplify the enrolment process, improve data management, enhance communication, improve security and adapt to remote enrolments. This will not only benefit the parents and the schools, but also provide the students with the best possible educational experience.	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Improved accuracy</li> <li>• Better communication</li> <li>• Increased accessibility</li> <li>• Improved data management</li> <li>• Improved User experience</li> <li>• Improved collaboration</li> <li>• Increased agility</li> <li>• Enhanced data governance</li> </ul>	<b>50 000,00 EUR</b>	MDM CEA Phase 2
4.3	MDM	Centralization of all resources to create a unique database for our entities (pupils, teachers, employees, inspectors, contacts, ...)	<ul style="list-style-type: none"> <li>• Increased data management</li> <li>• Increased data governance</li> </ul>	<b>50 000,00 EUR</b>	SMS replacement

## 5. ServiceDesk Sub-Unit

During 2023, the project for improving the efficiency and the quality of the services rendered by the ServiceDesk sub-unit continues. The project will focus on the following tasks:

- Further training the staff members in the employed ITIL methodology.
- Overview and improvement of the routines and processes currently in use.
- Increased use of the monitoring tools and the reporting to the different stakeholders thereof.
- Further implementation and refining of the asset management tool available adopted last year. (Freshservice)
- Making the asset management available to the schools that are interested in using it. Pilot will be conducted by the schools of LUX and MAM.
- Further refinement of the communication to the different stakeholders of incidents and upcoming maintenance.
- Development and implementation of easy-to-use reporting tools with the assistance of the Development subunit.
- Redaction of SLA's that will be implemented, upon agreement by the stakeholders.

Finally, the ICT Servicedesk is an integral part of the project to increase awareness of the importance of IT security, providing guidance to the users of the OSG and the IT colleagues of the schools.

No investments are required for the tasks and projects envisaged for the ServiceDesk Sub-Unit.

## 6. ICT projects with participation of several teams and/or in collaboration with several units at the OSG

### 6.1 Continuation of ongoing projects

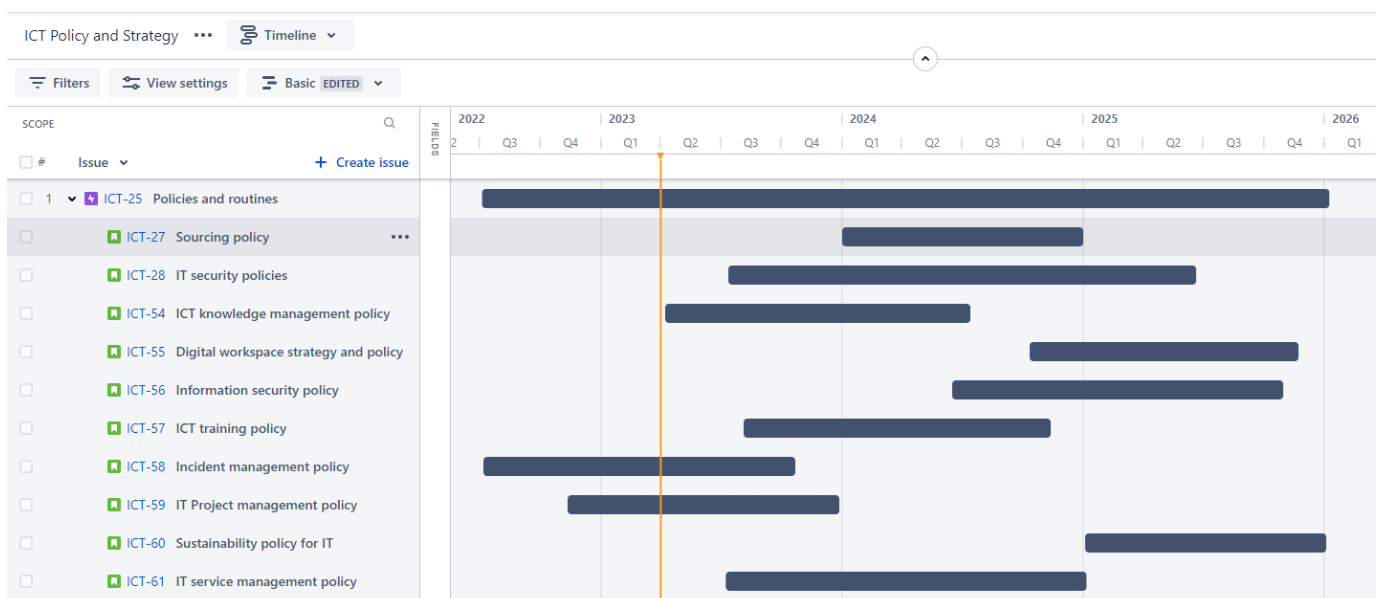
There are a number of ongoing projects done in collaboration with several teams or other units but already mentioned above and such as the Cloud Foundation project, the PM2 adoption and implementation project which are not repeated here. The following projects were initiated under 2022 and will be continued under 2023 according to the current project plans.

- **The introduction and implementation of the Digital Signatures solution**

The introduction of the Digital Signatures was envisaged in the framework of the Simplification WG. The underlying solution was purchased on the budget of 2022 with a limited number of transactions. The procurement of a solution providing support for qualified digital signatures for the authorizing officers at the OSG will be finalised in 2023. Estimated cost: 10.000 €. During 2023 the solution will be piloted at the OSG and if successful, it will be extended to the schools under the year 2024.

- **IT policy project**

One of the major objectives defined in the Multi Annual ICT plan 2022-2026 was the development and continuously improvement of the IT strategies and policies. The IT policy project focuses on the methodological development and has no financial impact. See below the roadmap envisioning the development of the different IT policies and strategies:



- **IT Governance project**

The aim of the IT Governance project is to gather all the tasks and actions needed for being able to fulfil in timely manner the approved Action Plan in response to IAS IT Governance audit performed 2022 and described above. No investments were envisaged for this project.

## 6.2 Envisaged forthcoming projects

There are several additional projects foreseen and planned which are currently placed on the ICT project backlog (waitlist) while requirements and possible alternative solutions are investigated. Some of these projects might be initiated already in 2023 depending on the results of relevant pre-studies or urgencies while other might need more thorough analysis and can be launched later, in the forthcoming years.

- **Procurement and introduction of an LMS, learning management system**

This project is part of the SMS replacement project program and described in detail in the document 2023-02-D-44-en-2 to be presented to the BoG. However, there is a clear need at the ES for improved educational support and the introduction of an adequate LMS. The financial impact for this project can be assessed only after the preliminary pre-study project which will start in 2023.

- **Development and introduction of a standalone BAC exam solution**

The standalone BAX exam solution project is also part of the SMS replacement project program. The currently employed BAC exam module in SMS is not functional enough. The data management is not adequate and the necessary security requirements are missing as this was also emphasised in the recent BAC audit report (IAS.A2-2020-EU-SCHOOLS-001. Report finding number: 5). For improved information security and GDPR compliance the BAC exam solution should be a standalone solution, however well integrated to the overall IT ecosystem of the schools. Estimated cost for the project: 180.000 € from the means budgeted for SMS replacement for the years of 2023 and 2024

- **Introduction of new timetabling solution**

Even this project is part of the SMS replacement project program. The timetabling functionality in SMS is inadequate and different third-party applications are used at many of the schools as a workaround. For providing an adequate timetabling solution for the schools on system level, the procurement and introduction of a professional timetabling solution is required. Estimated cost for the project: 66.000 € from the means budgeted for SMS replacement for the years of 2023 and 2024.

- **Zero trust security framework project**

An IT-security project with crucial importance for reinforcing the IT security at the ES with the goal of introducing the Zero-Trust IT security framework. This project will be the third phase of the Cloud environment reinforcement project initiated in 2021. This project will be a follow up on the Cloud

Roadmap and Cloud Foundation projects and will be executed in collaboration with Microsoft. Support contract still left to be done however estimated cost is: 250.000 €.

- **Business Intelligence (BI) & reporting modernization – SAP-BO replacement**

For reporting purposes SMS is used in combination with SAP-BO, aBI platform which is outdated and not supported anymore. As replacement for the outdated solution and, for the reporting needs at the ES, a modern, flexible platform is required with support for data analytics and excellent user-experience. During 2023 the available solutions will be investigated and assessed in a pre-study project. See section 4.2 under the IT Plan for 2023. The outcome of the assessment project will be the basis for the initiation of the BI modernisation project. The financial impact and estimated costs will be clarified during the pre-study.

- **Modernisation of the IAM (Identity and Access Management) solution**

The IAM of the ES is based on the Microsoft FIM/MIM technology and supports the provisioning of all student and staff accounts as well as of several thousands of email lists and Teams channels. This is a complex and outdated solution in need of modernisation. A modern and more efficient solution has been proposed after investigations performed in the Cloud Roadmap project. The IAM modernisation project is a high importance project for secure and efficient IAM. The project will be initiated as soon as the related projects, which are prerequisites to this project, are finalised. Estimated costs has not been clarified yet.

- **External web site replacement and modernisation**

The current external web site of the OSG is running on an outdated technical platform with no more support for technical and security upgrades. A new website has to be designed, developed and the content of the old site has to be migrated. This is a high urgency project. However, the most suitable solution still left to be identified and a procurement process is required before the project can be initiated.

#### FINANCIAL IMPACT OF ENVISAGED COMMON ICT PROJECTS

For projects mentioned above and not listed here, no financial investments are required.

5.		Background	Foreseen benefits	Estimated costs	ICT budget line
5.1	System level introduction of a Digital Signature solution	Project proposed in the framework of the Simplification project with the goal	<ul style="list-style-type: none"> <li>• Improved decision making</li> <li>• Increased efficiency</li> <li>• Improved user satisfaction</li> <li>• Improved collaboration</li> <li>• Increased agility</li> </ul>	<p><b>10 000 EUR</b></p> <p><b>TBD for schools</b></p>	For the OSG pilot: Provisional licenses 2023

5.2	LMS procurement and introduction	Introduction of an LMS system for improved educational support	<ul style="list-style-type: none"> <li>• Improved education support</li> <li>• Increased efficiency</li> <li>• Improved accuracy</li> <li>• Better communication</li> <li>• Increased accessibility</li> <li>• Improved data management</li> <li>• Improved user (student, teacher) experience</li> <li>• Improved collaboration</li> <li>• Increased agility</li> <li>• Enhanced data governance</li> </ul>	<b>TBD</b>	NA
5.3	Development of standalone BAC exam	Development and replacement of the SMS BAC Exam module for improved security and support for the AES	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Improved accuracy</li> <li>• Better communication</li> <li>• Improved data management</li> <li>• Improved collaboration</li> <li>• Increased agility</li> <li>• Enhanced data governance</li> </ul>	<b>180 000 EUR</b>	SMS replacement
5.4	Introduction of new timetabling solution	Replacement of the inadequate SMS timetabling functionality with a more efficient third-party solution.	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Increased accessibility</li> <li>• Improved data management</li> <li>• Improved User experience</li> <li>• Improved collaboration</li> <li>• Increased agility</li> <li>• Enhanced data governance</li> </ul>	<b>66 000 EUR</b>	SMS replacement
5.5	Zero trust security framework project	There is an accumulated need for reinforcing and modernising the IT security at the ES. The introduction of the Zero Trust security model is required for achieving a best practice solution.	<ul style="list-style-type: none"> <li>• Highly improved IT Security</li> <li>• Increased efficiency</li> <li>• Improved monitoring</li> <li>• Improved data management</li> <li>• Increased agility</li> <li>• Enhanced data governance</li> </ul>	<b>250 000 EUR</b>	NA

5.6	Business Intelligence (BI) & reporting modernization	The current reporting solution is fragmented and outdated. There is a need for a modern BI solution with support for analytics and excellent user experience.	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Improved accuracy</li> <li>• Better communication</li> <li>• Increased accessibility</li> <li>• Improved data management</li> <li>• Improved User experience</li> <li>• Improved collaboration</li> <li>• Enhanced data governance</li> </ul>	<b>TBD</b>	NA
5.7	Modernisation of the IAM	The current IAM solution is based on outdated technology and is in need of modernisation and simplification.	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Improved IT security</li> <li>• Improved accuracy</li> <li>• Improved data management</li> <li>• Increased agility</li> <li>• Enhanced data governance</li> </ul>	<b>TBD</b>	NA
5.8	External web site replacement and modernisation	The external website of the OSG is running on an outdate technical platform. A new website has to be designed, developed and the content of the old site has to be migrated.	<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Improved IT security</li> <li>• Better communication</li> <li>• Increased accessibility</li> <li>• Improved data management</li> <li>• Improved User experience</li> <li>• Improved collaboration</li> <li>• Increased agility</li> <li>• Enhanced data governance</li> <li>• Increased reputation</li> </ul>	<b>TBD</b>	NA



## V. ICT and Data Protection

During 2022 the ICT unit participated in several DPIA (Data Protection Impact Assessment) processes conducted by the Data Protection Officer (DPO) of the OSG ES, such as for the MDM/CEA application, for the Digital Signatures solution etc. Additionally, the ICT unit participated in investigations related to suspected data breaches.

Being compliant with the GDPR requirements remains an objective of utmost importance in the ICT area since it came into force and will continue to do so in 2023. For reinforcing the competency in this specific area, dedicated training has been foreseen for the staff of the ICT unit.

The ICT Unit will continue involving the Data Protection Officer (DPO) of the OSGES in new projects from the outset, in order to design new applications in line with the requirements of the GDPR.

Moreover, in the context of the renewal of existing contracts and the drawing up of new contracts with external suppliers, it needs to be ensured, in cooperation with the DPO and the Procurement Sub-Unit, that these contracts comply with data protection standards required by the GDPR.

## VI. Staff situation of the OSG ICT Unit

### Head of Unit ICT

The Head of Unit ICT position is successfully filled since September 2020 with secondment from the Swedish authorities.

### System and Networks Sub-Unit

The System and Network Sub-Unit is composed of one Head of Sub-Unit and three functions of System Engineer.

During the year of 2022, the System and Network Sub-Unit has been suffering by a high level of sick leaves which had negative impact on the operations of the System Sub-Unit. Two of the system engineers, left the ES during autumn 2022. Accordingly, currently there are 2.0 FTE system engineer positions vacant in the System team. Since November 2022 the System team was manned only at 50% which puts a very high

workload on the current staff as well as creates operational risks. Recruitment for the vacant positions has been foreseen to be finalised during Q2 2023.

The Head of System team position, which was vacant since February 2021, has been finally successfully filled and awarded to one of the System Engineers in December 2022.

### **ServiceDesk Sub-Unit**

The Service Desk was composed during 2022 of one Head of Sub-Unit and two ICT technicians. The function of head of Sub-Unit was filled since spring 2019.

One of the three service desk technician left in January 2021 for a one-year unpaid leave for private reasons. After the unpaid leave period, the technician decided not to return to the European Schools. For more efficient resource management and given the upcoming needs in development, this position was transferred to the Development Sub-Unit from January 2023 and upgraded to ICT Assistant Development by the decision of the BoG in Dubrovnik 2022.

### **Development Sub-Unit**

The Development Sub-Unit was composed during 2022 of one Head of Sub-Unit and in total four functions of Developer.

The former Head of Sub-Unit left the ES in May 2021 for retirement. After the recruitment process the Head of Sub-Unit has been awarded to one of the developers (ICT Assistant Development). One of the developers left in November 2022 for one-year unpaid leave for private reasons. The new developer position created by the transfer and upgrade of the ICT Technician position is open from January 2023. Accordingly, currently there is 2.0 FTE vacancy position at the Development Sub-Unit. The recruitment procedure for filling these vacancies was recently initiated.

### **ICT Secretariat**

The ICT Secretariat was composed of two secretaries (1.5 FTE) who - besides their ordinary secretary tasks - took over a lot of coordinating tasks and are deeply involved in the establishment and execution of the annual ICT budget. From January 2023 the ICT secretariat was expanded with an additional 0.5 FTE position and 1.5 FTE positions were upgraded to Assistant to the HoU positions. One person, 1.0 FTE, is now acting as a full time ICT Project Manager and Project Coordinator.

Details of these different functions provided are:

- Active participation in management, and follow-up of the ICT budget expenditure.
- Management of purchases, orders, IT invoices of the BSGEE in compliance with the financial regulation for ICT.
- SAP FMY roles.
- Collaboration with the Accounting Unit for the elaboration of specifications related to IT public contracts and active participation in procurement procedure.
- Management and follow-up of contracts with the various suppliers.
- Assisting the HoU in the IT Admin WG and IT Technicians meetings.
- Participation in elaboration and drafting of the annual ICT report.
- Contact point for suppliers (NTT, Microsoft, Proximus, Belnet, etc.).
- Project Management and follow-up of various projects.
- Project Support Office - facilitation of the daily work of the project team members so that they comply with the local administrative, procedural, and budgetary requirements of the environment we are working in.

The ICT-unit is suffering from recurrent staffing issues which has negative impact on the performance of the ICT unit and the possibility to provide reliable, secure, and high-quality IT services.

This has been noticed and described in the 2018-2022 IT Plan of the European Schools<sup>6</sup>. Due to the current high demand for IT professionals on the labour market, this situation persists. The main challenges are:

- High number of vacancies difficult to fill
- Difficulties to attract and retain the required key IT competencies.

---

<sup>6</sup> 2018-01-D-79-en-3

The following table gives an overview on the current staffing of the ICT Unit:

Function	Organogram	Effectives	Remarks
	01.01.2022	31.12.2022	
Head of Unit	1.0	1.0	
ICT Assistant to the SG	2.0	2.0	Head of Sub-Unit
ICT Assistant System	3.0	1.0	2.0 vacancies
ICT Assistant Development	4.0	3.0	2.0 vacancies
ICT Assistant Service Desk	1.0	1.0	Head of Sub-Unit
ICT Technician Service Desk	3.0	2.0	
Secretary / Assistant to the HoU	1.5	2.0	
<b>Total</b>	<b>15.5</b>	<b>12</b>	<b>4.0 vacancies</b>

## VII. Proposal

The Board of Governors is invited to express an opinion on the document 'ICT Report 2022 & ICT Plan for 2023'.

This version of the document has been amended since the Budgetary Committee took note of it. More details were added regarding the planned projects, including the need, benefits, and the estimated costs. Additionally, Annex 3 was introduced for providing a summarised list of envisaged projects.

The Board of Governors is asked to take into consideration that the proposed plan for 2023 puts forward the reinforcement and the improvement of the whole ICT infrastructure and the IT services of the ES. Currently there is a considerable amount of accumulated technical debt at the ES with an urgent and high demand for improvements and reinforcements. For achieving that, the clear support of the Budgetary Committee and the Board of Governors will be needed for providing means for envisioned projects as well as providing the necessary resources needed at the ICT Unit of the OSG and the IT teams at the European Schools.

## VIII. Conclusion

The Board of Governors approved the ICT Report 2022 and ICT plan for 2023.

**IX. Annex 1**  
**Distribution of ICT hardware in the schools on 31/12/2022**  
**and Development of IT Budgets**

## X. Annex 2 - Executive summary of the IT Security Assessment

## **XI. Annex 3 – Summarised list of envisaged ICT projects with their envisaged budgetary impact**