

2 Structuring procurement processes to foster competition and vendor neutrality

This chapter discusses how the three countries analysed in this report structure their procurement procedures and their impacts on vendor neutrality and competition. For each case, good practices and potential areas for improvement are identified. The steps examined include needs assessment and planning, market research, defining tender strategies, drafting tender documents and technical specifications, awarding the contract, leveraging framework agreements and facilitating user feedback.

Current practices for the procurement of computers in Chile

In terms of public procurement, the Chilean government is one of the country's largest purchasers of goods and services, accounting for approximately 5% of gross domestic product (GDP). A set of laws and regulations governs the public procurement process to ensure transparency, competition and efficiency.

Public procurement is a fundamental tool for governments to acquire goods and services, including computers and other information technology products. In the case of Chile, the main entity responsible for overseeing the procurement process is ChileCompra, a public institution created in 2003 under the Ministry of Finance.

This entity operates a digital platform that allows government agencies to carry out their procurement and contracting processes and manage the entire procurement cycle. The platform is designed to promote transparency, competition and efficiency in the public procurement process.

According to Law No. 19.886 on the basis for administrative supply contracts and provision of services, better known as the Public Procurement Law, the functions of ChileCompra are the following:

- Advising public agencies on planning and managing their procurement and contracting processes.
- Tendering for the operation of the information system and other means of electronic purchasing and contracting of public agencies.
- Tendering for goods and services through the signing of framework agreements.
- Representing or acting as an agent for one or more public agencies referred to in the law in the tendering of goods or services in the manner established by regulations.
- Administering, keeping up to date and tendering the operation of the Register of Contractors and Suppliers.
- Promoting the maximum possible competition in the administration's contracting acts, developing initiatives to incorporate the greatest possible number of bidders.
- Establishing the policies and conditions for the use of the public procurement information system.

In the design and execution of instruments to implement the procurement policy, ChileCompra makes use of the following tools:

- Procurement directives (*recomendaciones de compra*).
- Information technology (IT) developments in the public procurement information system (www.mecadpublico.cl).
- Information and communication technology (ICT) framework agreements.
- ICT tender bases.
- Mandated co-ordinated purchases (public tenders carried out by ChileCompra).
- Joint co-ordinated purchases (demand aggregation processes within a framework agreement).
- Strategic consultancies.

Competition is a critical element of the procurement process as it helps to ensure that government agencies obtain the best value for money and encourages innovation and efficiency in the market. In the case of computer procurement, competition is particularly important given the rapid evolution of technology and the need for government agencies to keep up with it.

One of the key principles of public procurement in Chile is technological neutrality, which means that government agencies should not favour any particular brand or technology when procuring goods or services. This principle is designed to promote competition and innovation in the market and ensure that government agencies obtain the best value for money.

Since the OECD report *Public Procurement in Chile: Policy Options for Efficient and Inclusive Framework Agreements* (2017^[1]), ChileCompra has made significant progress in implementing actions to design procurement models that facilitate the highest value for money, ensuring efficient processes for both buyers and suppliers of the public market. While ChileCompra may still mention some specific brands in the specifications of, for example, processors (e.g. AMD or INTEL), it always includes “or equivalent” to support neutrality and relies on a benchmark to classify processors. It also refers to the technology in a neutral way (e.g. X86, X64 or ARM).

The OECD report (2017^[1]), requested by ChileCompra as part of a review process of the design and operation of framework agreements, aimed to optimise this procurement modality based on the *Recommendation of the Council on Public Procurement* (OECD, 2015^[2]) and on international good practices and expert knowledge in the implementation and management of this procurement tool.

The report also assessed the performance of framework contracting in Chile and offered recommendations on how to improve this contracting modality, suggested ways to optimise processes, improve the system’s effectiveness, increase efficiency and promote inclusiveness (OECD, 2017^[1]). Specifically, the report offered, as a result, a series of recommendations related to the design and management of framework agreements, obtained from the comparison of the benefits obtained in various OECD countries, which resulted in new policy options that ChileCompra considered to further strengthen the strategic approach to its centralised purchasing function, thus offering complementary options to the procurement modality via framework agreements, aimed at maximising the degree of compliance with the objectives in each case, options that take the form of new procurement models (OECD, 2017^[1]).

Based on those recommendations, since 2018, one of the new models implemented by ChileCompra has been co-ordinated purchasing, the main procedure used by government buyers to purchase computers.

This process has involved standardising equipment and grouping them into ranges, from which buyers categorise their needs and submit them to the Budget Directorate (*Dirección de Presupuestos*, DIPRES), which produces reports indicating the relevance of each purchase and the available budget for each case.

Although initially used only for equipment purchases, from 2020 and as a result of the demand analysis carried out, the savings potential revealed, the flexibility required and the budget structure that differentiates between investment and expenditure, this practice also began to be used for leasing. ChileCompra has documented the range of additional costs under leasing. Initially, it collected information from the Ministry of Health (MINSAL) but this has been revalidated for each request for information (RFI).

This can be seen when analysing Resolution 22, for example, which approves the standard format of the bidding conditions and annexes for the contracting of computer leasing services for 36 months, validated by the Office of the Comptroller General of the Republic of Chile on 17 June 2021, and an instrument for the development of the respective tenders to promote this type of purchase.

The aforementioned document establishes, among others:

“1. That, by virtue of the provisions of Law No. 21,289 of the public sector budget for the year 2021 and Instruction No. 7 of the Budget Directorate of the Ministry of Finance, when central government agencies need to contract computer leasing services, they must first request authorisation from the aforementioned Directorate and be subject to co-ordinated procurement procedures.

2. Consequently, this Directorate will be permanently making co-ordinated purchases for the lease of computers in order to provide this service to the agencies subject to the aforementioned instructions.

3. That, by virtue of the market study of the process, a market consultation was carried out, published in the system with ID 1122317-3-RF21, and the information obtained from this was used as input to prepare the present bases.

4. That, from the information obtained in this consultation and the amount of demand to be added, it is expected that in general these co-ordinated purchases will exceed the amount established to be submitted for approval.

5. That, given their recurrent nature and in order to make the administrative procedure of these procurements more efficient, this Directorate deems it necessary to submit to the approval process a set of standard terms and conditions for the co-ordinated procurement of computer leasing services for 36 months.

8. The service covered by these standard terms and conditions is not included in the catalogue of products and services tendered by this Directorate through the framework agreement mechanism."

It follows that ChileCompra developed the leasing modality as a complement, in order to keep available the options required by buyers according to their usual behaviour.

On the other hand, ChileCompra has completed a thorough analysis of the use of framework agreements to purchase computers and how to improve this modality of purchase. By using RFI, it designed several leasing options, including different periods, modalities and combinations; the 36-month term is the one used after the agreement with DIPRES.

Therefore, the main analyses so far have been related to the way demand is structured in terms of models and equipment, and to the standardisation that has resulted in significant efficiencies and savings (Table 2.1).

For both equipment leasing and purchases, the main process is co-ordinated purchasing: only in cases where buyers need to purchase equipment that does not fit with the available ranges are exceptional processes applied. On the plus side, co-ordinated purchasing has delivered significant savings, as illustrated in Table 2.1. However, it also implies challenges such as the capacity to address specific institutional needs and excluding small and medium-sized enterprises (SMEs) unable to meet the requirements of aggregated demand, which may ultimately exacerbate lock-in risks. For example, as confirmed during the fact-finding mission, given the needs of the Internal Revenue Service (*Servicio de Impuestos Internos*, SII), the co-ordinated approach may sometimes fall short of addressing such needs. In any case, it would be important to review the process regularly to balance benefits and costs, as well as to assess how risks are being mitigated.

Table 2.1. Savings achieved via co-ordinated purchasing

	2019	2020	2021-1	2021-2	2022-1	2022-2
Computer purchases (%)	36		26.2	30.2	36.6	14.3
Computer leasing (%)		21	16.3		34.4	27.2

Source: Information provided by ChileCompra.

To date, ChileCompra has developed the following initiatives to structure and support the procurement of personal computers and laptops by public agencies:

- **Directive** for the procurement of goods and services related to information technology.
- **Publication of standard bidding terms and conditions for the lease of computers**, a procurement modality that supports purchasers of public entities in the preparation of the bidding terms and conditions, thanks to the standardised administrative clauses approved by the Office of the Comptroller General of the Republic of Chile. This allows for greater efficiency and competition, with a reduction in the time required to prepare the bidding conditions and greater participation of suppliers in the most complex and costly acquisitions.

- **Framework agreement for the procurement of laptops, desktops and all-in-one:** The fourth version of this framework agreement tender (ID 2239-17-LR22 at www.mercadopublico.cl) was awarded in the first quarter of 2023 and its inclusion in the electronic catalogue will allow public agencies to access personal computers: desktops, all-in-one, and laptops standardised and classified by range.
- **Mandated purchases of computer leases:** On 19 August 2022, a previous co-ordinated purchase was awarded for the laptop leasing service (ID 1122317-13-LR22), allowing savings for the state of 42% with respect to the estimated budget established for this acquisition, thanks to the aggregation of demand from 20 public agencies and 4 133 computers from three different ranges for a period of 36 months. In addition, on 29 August 2022, the co-ordinated purchase of the leasing service for all-in-one and desktop computers (ID 1122317-12-LR22) was awarded, allowing savings of more than USD 1.7 million. This cost reduction of 27% was achieved for the lease of 4 913 computers for a period of 36 months for 25 public services. As of December 2022, ChileCompra invited central government agencies and services to register and be part of the new 36-month co-ordinated computer leasing procurement processes.
- **Joint co-ordinated purchase of computers** (through a large purchase under the framework agreement) **and consultancies on request.** In the case of this joint co-ordinated procurement, the last large purchase process was the one identified in ID 65827.

Importantly, the procurement of computing equipment has supported educational programmes such as I Choose My PC (*Yo elijo mi PC*) and I Connect to Learn (*Me conecto para aprender*). *Yo elijo mi PC* is a scholarship programme run by the National Board for School Support and Scholarships (*Junta Nacional de Auxilio Escolar y Becas*, JUNAEB) that benefits Chilean students with high academic performance. Its objective is to facilitate access to education, close the digital gap and benefit vulnerable children. Notably, the programme includes the delivery of computers for the students. *Me conecto para aprender* (www.meconecto.mineduc.cl) also aims to close the digital gap and support student learning through the distribution of computers, educational resources and Internet access. According to JUNAEB, since its implementation, it has benefitted more than 266 000 students.

Finally, there is currently a gap in addressing municipalities' needs, which are not considered in the policies established by DIPRES and have problems with timely payment and the non-compulsory nature of aggregating demand.

Needs analysis and procurement planning

Currently, the requirement analysis is developed from the information prepared by agencies regarding their equipment needs in the purchase planning process, which is strengthened in the recently approved procurement law. This information-gathering process is structured and carried out through EvalTIC. Furthermore, by facilitating clustering and cross-analysis, this tool is useful to ensure the coherence of the policies designed.

The contracting authorities affected by the current year's budget law obligation for co-ordinated, mandated procurement processes request the equipment according to the computer's technical standard defined by DIPRES and ChileCompra.

As noted above, the process is currently developed through EvalTIC, through which each institution enters its IT project formulation, which, after being reviewed by technical experts from different public bodies, receives observations and recommendations, along with approval or rejection.

Since entering into force in 2018, EvalTIC has grown from 64 to 168 institutions using the platform in 2022 and increased from 322 to 2 538 the number of projects analysed. Its scope now even reaches the public procurement system, which, within the requirements for carrying out tenders or issuing purchase orders, requires buyers to incorporate the project code generated by EvalTIC into the electronic system.

In the case of computers, in order to issue a positive recommendation, DIPRES requires purchases to be made through co-ordinated purchases, which provides important support to the consolidation of this procurement modality. Once DIPRES communicates the approved quantities, purchasers must review the technical standard and decide whether to join the process for the current period.

Buyers may, exceptionally, make purchases without adhering to co-ordinated purchasing and need special approval to do so. These exceptional cases, which are mostly executed through direct procurement, are managed outside the usual procedure of the EvalTIC platform. Each exception request is submitted directly by the purchasers to the DIPRES officials responsible for budget management, with information to justify the need for carrying out the procurement process without adhering to co-ordinated purchasing.

The main justifications presented by purchasers in these requests relate to the timing of the co-ordinated purchases and the technical characteristics of the equipment being procured through the co-ordinated purchases. In the case of timing, co-ordinated purchases are carried out twice a year; given that the timing of these processes has not yet been sufficiently harmonised with budget planning or due to failures in the purchasers' planning, there are cases, as reported during the OECD fact-finding mission, in which the purchasers state that they need to carry out their procurement processes without adhering to joint purchasing.

In relation to the equipment's technical characteristics, during the fact-finding mission, purchasers argued that, in certain cases, the conditions of the equipment considered for co-ordinated purchasing do not meet the standards they require, due to the demands for the fulfilment of specific functions. This might be understandable as mandated purchases aim to address the needs of most users (80/20 of the Pareto Principle) so there is always a possibility that very specific needs are not fully incorporated.

While this information, especially temporality, is being considered in the process of continuous improvement of co-ordinated purchases, the conditions reflect the need to evaluate other contracting modalities, such as dynamic purchasing agreements, which, while taking care of efficiency and effectiveness, offer buyers the necessary flexibility.

Finally, although this model has significantly improved the way needs analysis is carried out, buyers highlight the need to include the "impact" dimension in the project evaluation process, as the cost is not always a good indicator of the criticality of each project.

Market research

When defining the computer procurement model through ranges, market research was undertaken jointly with the University of Chile, for which historical data on public procurement, web scraping, national and international market studies, cost models through reverse engineering and statistical methodologies such as hedonic regressions were used. The objective of the study was to determine the most convenient model for the state to purchase computers that ChileCompra could implement.

Currently, the market research work is mainly carried out by the ChileCompra unit in charge of co-ordinated purchases, with less participation from other teams that could complement the process. This work is carried out according to the pre-established format developed by a team of economists, which was used when the market research that defined the computer procurement model was carried out and has been applied according to the information on changes and innovations in the market collected periodically.

ChileCompra analyses the information available in the public procurement system, which, in the case of purchases made through framework agreements, is structured for these purposes, while in other processes, such as tenders or lower-value purchases, the information is less structured. In addition, ChileCompra carries out RFI processes, through which it obtains the information required to design and implement strategic computer procurement processes, such as framework agreements or co-ordinated purchasing.

The market offer was identified through these practices and clauses were established to allow different actors to participate and access the market. These actions made it possible to delineate the market's capacity to respond in terms of time and volume, identifying key actors and supporting standardisation and definition of categories.

However, the business sector is reticent about the level of business participation in policy definitions and the effectiveness of the market analysis developed, considering that knowledge of the industry is fundamental for the design of successful policies. In this line, companies have reported that this is an area of opportunity and that the market research process could be developed with a broader view and not only focused on the specific elements established by the procurement agency.

Tender strategies

Law No. 19.886 and its regulations and Article 12 of the Budget Law 2023 establish the administrative procurement procedures, in order of general priority:

- **Framework agreements:** Suppliers and their products are awarded through public tenders, which are made available to all agencies subject to procurement law so that they can purchase the products in a procurement catalogue. This mechanism is the preferential option for central government agencies and the armed forces and is optional for municipalities. For acquisitions over 1 000 monthly taxing units (*Unidad Tributaria Mensual*, UTM), there is a special second-stage selection mechanism called “large purchase”, regulated by Article 14 bis of the regulation of Law 19.886 and the respective bidding conditions of each framework agreement.
- Under this mechanism, “**joint co-ordinated purchases**” are carried out in which two or more agencies purchase jointly, normally in a large purchase process in the respective framework agreement available at www.mercadopublico.cl. Procurement under this mechanism usually has ceilings for purchase orders, in particular in the computer framework agreement, the limits are for in-store purchases between 30 UTM (USD 1 969) up to 25 000 UTM (USD 1 643 566).
- **Public tender:** Administrative procedure of a competitive nature by means of which the public agencies issue a public call for tenders, summoning interested parties to submit proposals, subject to the established terms and conditions, from which they will select and accept the most suitable one. This mechanism has no ceilings but, depending on the amount, there are changes in the periods of publication and the process of acknowledgement by the Office of the Comptroller General of the Republic of Chile. This procedure has leveraged standardised templates (*bases tipo*) for PC leasing but new versions will also anticipate purchasing.
- Under this modality, **mandated purchases** are carried out, in which ChileCompra represents agencies to carry out the procurement process from the design of the procurement strategy to the award, after which each mandating public agency carries out contractual management. This modality has standard bidding terms and conditions for tendering the lease of computers.
- **Agile procurement:** This modality (regulated in Article 10 bis. of the public procurement regulation) facilitates acquisitions in amounts less than or equal to 30 UTM, streamlining bureaucracy by reducing the formal requirements for these processes and increasing the participation of smaller companies. It is a form of direct award.
- **Private tender:** Administrative procedure of a competitive nature, subject to a well-founded resolution that establishes it, by means of which the administration invites certain suppliers to submit proposals, subject to the established bases, from which it will select and accept the most convenient one.

- **Direct contracting:** A contracting procedure that, due to the nature of the negotiation involved, must be carried out without the concurrence of the requirements indicated for public and private tenders or proposals. This circumstance must, in any case, be accredited as determined by the regulations.

Applying the concept of using a tool for each objective and considering that depending on the amount, criticality and possibility of consolidation, procurement processes must cover different objectives, ChileCompra has established as a strategy that computer purchases be carried out through different instruments, specific to each objective. Currently, computer purchases are carried out mainly leveraging three tools:

- Co-ordinated purchasing, both for purchase and leasing of computers, for those cases where requirements are significant and planning allows consolidation.
- Framework agreements, to purchase laptops and desktops available in the framework agreement catalogue and not covered by co-ordinated purchasing.
- Other modalities, such as specific tenders or minor purchases, to meet needs that, due to their nature, such as the equipment's particularities, do not fit within the previous options. In the case of tenders, ChileCompra has made available standard bidding documents (*bases tipo*) that facilitate buyers' operations.

Especially in the case of purchases through framework agreements, the National Economic Attorney's Office has analysed competitive neutrality, concluding that these processes meet a positive standard.

As illustrated in Table 2.2, direct awards increased by more than 300% between 2020 and 2022 in terms of the value of contracts. This is something to follow up closely to ensure that such direct awards are justified and do not unnecessarily hinder competition. As a general rule, competitive procedures are preferable to advance efficiency and value for money.

Table 2.2. Number of contracts awarded and amounts for the procurement of personal computers and laptops by type of procedure and year

Year	Type of procedure	Number of contracts awarded	Amount (USD)
2022	Framework agreement	606	9 909 947
	Direct award	2 297	13 650 796
	Tender	701	53 662 878
2021	Framework agreement	356	10 535 140
	Direct award	1 885	4 951 029
	Tender	386	51 511 116
2020	Framework agreement	1 137	8 902 472
	Direct award	677	3 391 620
	Tender	93	41 235 454

Source: Information provided by ChileCompra.

Drafting of tender documents and the use of vendor-neutral technical specifications

The Public Procurement Law facilitates competitive neutrality since it establishes that requirements cannot refer to specific brands unless needed for a better definition; in this case, a brand could be indicated as a reference rather than a mandatory element. This condition applies to purchases in the public market managed by each agency and also to processes managed by ChileCompra, such as those based on framework agreements and co-ordinated purchasing.

In this line, ChileCompra adopts a series of actions in the development of the technical standard that is included in the bidding documents for computer leases, framework agreements, joint co-ordinated purchases and mandated co-ordinated purchases: i) carry out market consultations (or RFI) through the platform www.mercadopublico.cl, where the technical specifications of equipment and services are validated with the industry and interested suppliers in an open and participatory manner; ii) define technical specifications contrasted with the market that the main manufacturers can meet; and iii) seek to capture those innovations that the vast majority of industry manufacturers have in the market.

Additionally, in the processes it leads, in addition to focusing on achieving savings estimated to reach 30% with respect to market prices for similar equipment, ChileCompra seeks to define the standard of equipment used by most public agencies (80/20 rule) as a minimum requirement. Nevertheless, particularly when referring to parts and components, specific brands are sometimes mentioned in procurement processes, though always mentioning “or equivalent/superior” to support neutrality.

Figure 2.1. Technical description of computers

Tender ID: 2239-17-LR22 CM for the acquisition of laptops, desktops and all-in-one computers

	Especificación Técnica del Equipo	Requisito mínimo Gama 1	OFERENTE DEBE COMPLETAR DETALLE DE ESPECIFICACIÓN DEL EQUIPO OFRECIDO PARA LA GAMA 1	Requisito mínimo Gama 2
Part Number	Part Number Fabricante OEM	Sin valor de referencia		Sin valor de referencia
Marca	Nombre comercial del Fabricante OEM	Sin valor de referencia		Sin valor de referencia
Modelo	Modelo Comercial Fabricante OEM	Sin valor de referencia		Sin valor de referencia
Sistema Operativo	Windows 10 pro, Mac OS 10 , equivalente o superior.	Se requiere que el equipo sea compatible con Windows 11 pro o equivalente (considere TPM 2.0 habilitado de fábrica, UEFI, compatible con Arranque Seguro). Además, el equipo debe contar con BitLocker o equivalente implementado y activado de fábrica.		Se requiere que el equipo sea compatible con Windows 11 pro o equivalente (considere TPM 2.0 habilitado de fábrica, UEFI, compatible con Arranque Seguro). Además, el equipo debe contar con BitLocker o equivalente implementado y activado de fábrica.
CPU Benchmark	PassMark software CPU benchmarks [mínimo]	9.000		12.000
Especificaciones del Procesador definidas por el fabricante OEM del procesador	Tipo de Procesador	AMD RYZEN 3 EQUIVALENTE O SUPERIOR / INTEL CORE I3 EQUIVALENTE O SUPERIOR / X64 O EQUIVALENTE, de 4 núcleos o más		AMD RYZEN 5 EQUIVALENTE O SUPERIOR / INTEL CORE I5 EQUIVALENTE O SUPERIOR / X64 O EQUIVALENTE, de 6 núcleos o más
	Procesador	Sin valor de referencia		Sin valor de referencia

Source: ChileCompra (n.d.^[3]), *Mercado Público*, www.mercadopublico.cl (accessed on 15 December 2023).

Figure 2.2. Standards and estimated prices

Budget process 2022

ESTÁNDARES ARRIENDO DE EQUIPOS COMPUTACIONALES CON OPCIÓN DE COMPRA									
<ul style="list-style-type: none"> • Plazo Arriendo: 36 meses, con opción de compra con cuota 37. • Precios calculados considerando los precios máximos definido para las compras coordinadas en 2022, que consideran mejoras de servicio, mejoras del equipo, accesorios y servicios adicionales de seguridad y uso. La definición de los precios consideró los aumentos de costos de transporte y el efecto de la inflación, estimado para 2022. • Precio incluye IVA, despacho y servicios adicionales a nivel nacional. 									
Característica	LAPTOP			DESKTOP (con Pantalla)			ALL-IN-ONE		
	Gama 1	Gama 2	Gama 3	Gama 1	Gama 2	Gama 3	Gama 1	Gama 2	Gama 3
Procesador	AMD RYZEN 3 O SUPERIOR / INTEL CORE I3 O SUPERIOR / X64 O EQUIVALENTE, de 4 núcleos o más	AMD RYZEN 5 O SUPERIOR / INTEL CORE I5 O SUPERIOR / X64 O EQUIVALENTE, de 4 núcleos o más	AMD RYZEN 7 O SUPERIOR / INTEL CORE I7 O SUPERIOR / X64 O EQUIVALENTE, de 4 núcleos o más	AMD RYZEN 3 O SUPERIOR / INTEL CORE I3 O SUPERIOR / X64 O EQUIVALENTE, de 4 núcleos o más	AMD RYZEN 5 O SUPERIOR / INTEL CORE I5 O SUPERIOR / X64 O EQUIVALENTE, de 6 núcleos o más	AMD RYZEN 7 O SUPERIOR / INTEL CORE I7 O SUPERIOR / X64 O EQUIVALENTE, de 8 núcleos o más	AMD RYZEN 3 O SUPERIOR / INTEL CORE I3 O SUPERIOR / X64 O EQUIVALENTE, de 4 núcleos o más	AMD RYZEN 5 O SUPERIOR / INTEL CORE I5 O SUPERIOR / X64 O EQUIVALENTE, de 4 núcleos o más	AMD RYZEN 7 O SUPERIOR / INTEL CORE I7 O SUPERIOR / X64 O EQUIVALENTE, de 4 núcleos o más
RAM	8 GB o superior	16 GB o superior	16GB o superior	8GB o superior	16GB o superior	16 GB o superior	8 GB o superior	16 GB o superior	16 GB o superior
Sistema Operativo *	Windows 10/11 Pro o equivalente	Windows 10/11 Pro o equivalente	Windows 10/11 Pro o equivalente	Windows 10/11 Pro o equivalente	Windows 10/11 Pro o equivalente	Windows 10/11 Pro o equivalente	Windows 10/11 Pro o equivalente	Windows 10/11 Pro o equivalente	Windows 10/11 Pro o equivalente
Almacenamiento	480 GB SSD (o superior) M.2 PCIe NVMe	480 GB SSD (o superior) M.2 PCIe NVMe	480 GB SSD (o superior) M.2 PCIe NVMe	550 480 GB O SUPERIOR M.2 PCIe NVMe	550 480 GB O SUPERIOR M.2 PCIe NVMe	550 480 GB O SUPERIOR M.2 PCIe NVMe	SSD DE AL MENOS 480 GB M.2 PCIe NVMe	SSD DE AL MENOS 480 GB M.2 PCIe NVMe	SSD DE AL MENOS 480 GB M.2 PCIe NVMe
Tamaño Pantalla	DESDE 14" (incluido) - HASTA 15,6" (incluido) FULL HD o superior.	DESDE 14" (incluido) - HASTA 15,6" (incluido) FULL HD o superior.	DESDE 14" (incluido) - HASTA 15,6" (incluido) FULL HD o superior.	MONITOR (MISMA MARCA DEL EQUIPO) 22 PULGADAS FULL HD PANEL (O SUPERIOR)	MONITOR (MISMA MARCA DEL EQUIPO) 22 PULGADAS FULL HD PANEL (O SUPERIOR)	MONITOR (MISMA MARCA DEL EQUIPO) 22 PULGADAS FULL HD PANEL (O SUPERIOR)	FULL HD (1080P) 21" O SUPERIOR	FULL HD (1080P) 21" O SUPERIOR	FULL HD (1080P) 21" O SUPERIOR
Puntaje Passmark ¹	6000	9.000	10.500	8.000	12.000	16.000	8.000	10.000	12.000

Source: DIPRES (n.d.^[4]), *Sistema de Información para la Gestión Financiera del Estado*, <https://dipres.gob.cl> (accessed on 19 September 2023).

Award criteria and procedures

In order to encourage greater participation and coverage, in addition to the general conditions that ChileCompra applies in all of its processes, specific rules have been defined in the case of computers to ensure a sufficient number of brands are present in the electronic catalogues.

Likewise, based on initial experiences, a clause has been incorporated in the award process of the fourth version of the co-ordinated purchase, which requires at least three new brands to be awarded. This condition has allowed greater access for new brands while maintaining a wider choice for buyers, which in turn has impacted not only end user satisfaction but should facilitate a less concentrated distribution in the market, thus minimising lock-in risks.

However, it is important to consider that the reform to the procurement law just approved in Congress does not include dynamic purchasing agreements as part of the set of possible procedures to be used, even though these procedures would help consolidate technological neutrality. In this sense, it is critical to consider that dynamic purchasing agreements make it possible to avoid the problem of obsolescence of framework agreement catalogues, which, although they may consider specific elements to maintain an updated supply, are not a purchasing tool designed to facilitate permanent access to new suppliers and an updated supply of products.

Framework agreements

Technology procurement from the public sector reached USD 89.6 million in 2022, representing a 34% increase over 2021. Since 2014, the strategy to execute technology purchases from the public sector moved from a model in which practically everything was procured through framework agreements to a mixed model, in which procurement through framework agreements is complemented with other modalities such as purchases using standard bases, smaller purchases and especially co-ordinated purchases, in response to the need identified at that time to rationalise the use of framework agreements as a procurement modality.

In the specific case of computer purchases, elements such as the outdated product catalogue, difficulties when comparing equipment from different suppliers, brands or product generations, and when capturing the price decline, and the large number of requests for products that are not traded across the board led to new procurement modalities, which ended up in the first segmentation of product categories in 2018.

From the definition of minimum technical specifications of the ranges (central processing unit or CPU, random-access memory or RAM, and storage) and a classification of the products into laptops, desktops and all-in-one PCs, categories were identified to facilitate product comparison and, therefore, greater competition.

This first segmentation facilitated the first co-ordinated purchase in 2019, designed to satisfy equipment leasing needs. As mentioned above, for this procurement, a standard was defined for three types of products (laptops, desktops and all-in-one PCs), generic files were included in the framework agreement, new technical characteristics were added to the product classification and the CPU benchmark (PassmarkCPU) was also adopted.

Also, based on this segmentation, and considering that the electronic framework agreement catalogue provided an important space to validate the conditions of the computer procurement process and thus allowed important lessons to be learned, computer framework agreement tenders with new features were developed between 2019 and 2021.

Through A/B testing, it has been verified that buyers do not consider price a critical attribute of the products, but they do consider the supplier from whom they buy as important (users who purchased without knowing the supplier later cancelled their orders). Based on this and other findings, the tender gradually focused on prices considering technical specifications as minimum requirements, the segmentation model was refined by opening categories with and without an operating system, the awarding process was adjusted considering the level of sales and distribution was included in the price of the product.

User participation

An important challenge in the procurement of computers is balancing the needs of users and the procurement authorities while realising neutrality and value for money. Users may want to ensure that what is requested will do exactly what they need. However, customised computers will generally be more expensive than standard options, more difficult to reuse and will create lock-in risks. Communication and feedback channels are key to finding the right balance.

Through interviews with buyers, it was verified that while there is a relevant information channel from ChileCompra to buyers, this communication does not operate with the same strength in the opposite direction. During such interviews, the OECD team heard buyers claiming they could have greater participation in the design process and during the operation stage of the framework agreements or co-ordinated purchases. Currently, there is no formal feedback mechanism for ChileCompra regarding the operation of co-ordinated purchasing.

It would be especially relevant to permanently consider the opinion of the main buyers since, according to figures provided by ChileCompra, the five main buyers in 2022 accounted for more than 60% of the total amount spent by the central government on computers and laptops (see Tables 2.3 and 2.4).

Table 2.3. Procurement of personal computers and laptops, 2018-22

Year	Amount (USD)
2022	77 223 621
2021	66 997 285
2020	53 529 546
2019	74 803 814
2018	75 856 877

Source: Information provided by ChileCompra.

Table 2.4. Public entities with the highest procurement spending on personal computers and laptops, 2022 and 2021

2021		2022	
Public entity	Amount (USD)	Public entity	Amount (USD)
JUNAEB	44 360 082	JUNAEB	36 867 155
Internal Revenue Service	2 038 344	University of Chile	3 302 001
University of Chile	1 477 974	National Board of Pre-schools (JUNJI)	2 605 151
University of Valparaiso	1 033 096	University of the Bio-Bio	2 340 910
University of the Border	986 144	Internal Revenue Service	1 961 227
Percentage of total	74.5	Percentage of total	61

Source: Information provided by ChileCompra.

Current practices for the procurement of computers in Colombia

Public procurement in Colombia represents about 10.5% of its GDP and 22% of government expenditures.¹ Procurement activities are governed by a set of rules, notably Law 80/1993, also known as the Public Procurement Statute, and Decree 1150/2007. The statute includes general principles to be observed in all procurement activities, such as objective selection, free concurrence, economy and effectiveness. These principles prescribe avoiding discriminatory treatment for any bidder.

However, after some years, Decree 1150/2007 intended to close gaps found in Law 80/1993. The most important changes introduced were the extension of selection modalities, the establishment of framework agreements for goods and services with standard characteristics and common use throughout the public administration and the setup of the e-procurement platform (*Sistema Electrónico para la Contratación Pública*, SECOP) and the supplier registry (*Registro Único de Proponentes*, RUP) (ICP, 2007^[5]).

Colombia Compra Eficiente (CCE) is the governing body of the public procurement function and, as such, issues policies and rules and identifies good practices relative to public procurement. It was created through Decree 4170/2011 and is in charge of recommending public policies, plans, programmes and rules to the national government relative to public procurement, aiming to achieve effectiveness between supply and demand and regulatory simplification, as well as efficiency, transparency and the best use of public resources.

In line with the Digital Government Policy (*Política de Gobierno Digital*, PGD), the CCE established a framework agreement to procure computers and accessories, including purchasing and leasing PCs and laptops. All framework agreements related to ICT should observe the following principles:

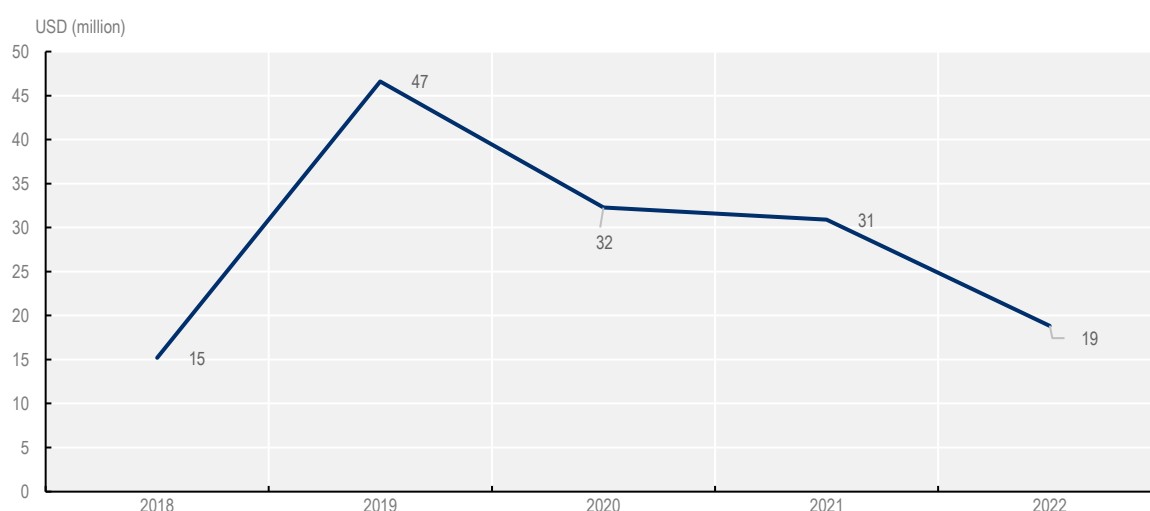
- Favouring modalities as a service, whenever possible.

- Technological neutrality.
- Favouring functional specifications and avoiding definitions based on brands.
- Minimising lock-in risks.

The Ministry for ICT (MinTIC) also defines technological neutrality in its guidelines and there is a concept on the subject from the Constitutional Court of Colombia.

According to the information registered in the Virtual Store of the Colombian State (*Tienda Virtual del Estado Colombiano*, TVEC), during the last five years, the procurement of computers and accessories reached 2 240 purchase orders for 515 342 computers. However, the amount of resources involved has decreased since 2019 (Figure 2.3). According to the CCE, this is because some procurement was delayed to avoid the rising prices after supply chain issues during the COVID-19 pandemic.

Figure 2.3. Value of the procurement of computers and accessories in the TVEC, 2018-22



Source: Information provided by the CCE.

The top five institutions in terms of procurement of computers and accessories changed completely from 2021 to 2022 (Table 2.5). Educational institutions and local governments concentrate high volumes of purchases.

Table 2.5. The top five institutions in terms of procurement of computers and accessories, 2022-21

2021		2022	
Institution	Value (COP)	Institution	Value (COP)
Ministry of Finance and Public Credit	1 652 903 473	Department of Antioquia	976 915 957
University of La Guajira	1 630 035 581	Institute for the Development of Cesar	457 220 864
National Institute for Technical Professional Training Humberto Velásquez García, Ciénega	999 598 650	Municipality of Puerto Concordia	404 998 638
Municipality of Kennedy	954 273 000	Caldas People Contact Manizales	400 000 000
Municipality of Usme	886 079 579	University of Antioquia	385 780 573

Source: Information provided by the CCE.

Needs analysis and procurement planning

Public entities are required to adequately plan their procurement. For that purpose, they must prepare an Annual Procurement Plan (*Plan Anual de Adquisiciones*, PAA), which should be published by 31 January each year and can be updated at least once a year. According to the guidance provided by the CCE, the PAA aims to: i) facilitate identifying, registering, programming and publishing entities' needs for goods, works and services; and ii) design procurement strategies based on demand aggregation to maximise efficiency. This guidance is compiled in a guide to drafting annual procurement plans.²

Furthermore, contracting authorities carry out market research to identify market alternatives and demand features. Likewise, they have to choose the more convenient procurement modality according to their needs. When using the framework agreement, contracting entities can define the requirements for computers and laptops according to processing scores that can be related to workloads and the final user, which is precisely the output that an adequate benchmark should provide. In other words, each entity identifies the equipment it needs based on its own analyses, which should include technical and economic considerations.

Market research

Contracting entities carry out market research independently. However, the CCE recommends them to use public procurement data such as purchases and characteristics of the procured equipment by the different entities, as well as market trends. In fact, MinTIC and the CCE make open data platforms available so that contracting entities can analyse market trends and behaviours. With this information, they can determine technical features and estimate budget requirements.

The CCE also produced a guide to sectoral studies, which provides practical tools and guidance to carry out a comprehensive analysis to understand, from the planning stage, the sector at which the procurement will be directed and design the process accordingly.³ According to this guide, sector analyses should include the following topics:

- **General market characteristics:** Economic, technical and regulatory, among others.
- **Spending behaviour:** Previous procurement of the contracting entity and others.
- **Supply analysis:** Production, distribution and delivery dynamics, who the suppliers are, etc.
- **Demand analysis:** Historic prices.

Tender strategies

The procurement of computers and laptops may take place following two modalities:

- **Traditional:** The contracting entity carries out the tendering process and its execution up to the payment stage. The control authorities supervise this modality: the Comptroller's Office (*Contraloría*), the Attorney's Office (*Fiscalía*) and the Public Prosecutor's Office (*Procuraduría*).
- **Framework agreement:** The CCE tenders a framework agreement, following the advice of MinTIC, and once awarded, contracting entities procure as per the agreement's conditions. Such entities are responsible for paying suppliers. The control entities may also supervise procurement executed through the framework agreement.

MinTIC strongly recommends contracting entities rely on the framework agreement. They can procure under the modality of device as a service (DaaS) or traditional leasing using the framework agreement to buy or lease computers and accessories:

- **Traditional leasing:** Contracting authorities lease computing equipment, which may include desktops, all-in-one PCs, workstations, thin client computers, laptops or tablets, for a fixed time and independently of the additional services included in the framework agreement for the leasing

category. Contracting entities cannot request new or used equipment, only the lease time and minimum conditions. The management of the equipment is the responsibility of the contracting entity.

- **DaaS:** This allows the procuring of new computers as a service, with recurrent payments and the supplier being responsible for managing the equipment. The supplier guarantees the contracting entity the computing capacities defined in the selected configurations. This modality includes desktops, all-in-one PCs, workstations, thin client computers, laptops and tablets as a service or a comprehensive solution of resources such as configuration, installation of software owned by the contracting authority, information security, preventive maintenance, technology updates, technical support, parts replacement and monthly reports of incidents.

The National Business Association of Colombia (*Asociación Nacional de Empresarios de Colombia*, ANDI) commissioned a study on the implementation of DaaS, which summarised the challenges and opportunities for its implementation (Box 1.1).

However, it should be noted that the PAA and the national budget are laid out on a yearly basis, which creates disincentives for leasing or DaaS schemes. The yearly basis often leads contracting entities towards the purchase of equipment instead of opting for leasing or “as a service” models because when a contract is planned to last longer than a year, procuring entities have to develop and justify a long-term project through a budget mechanism known as *vigencias futuras* (i.e. a budget guarantee for the following years). In such a case, the project has to be presented to the National Planning Department (*Departamento Nacional de Planeación*, DNP) and the Ministry of Finance (*Ministerio de Hacienda*). Nevertheless, if a purchasing entity has enough budget, it can just purchase the equipment during the fiscal year without having to request such clearances. Furthermore, a budget line must be classified as either as an investment (CAPEX) or an operating expense (OPEX). However, the Ministry of Finance usually rejects IT procurement when it is classified as OPEX, favouring the purchase of new hardware. In other words, the CAPEX/OPEX trade-off usually used as an argument for “as a service” models has not been fully accepted.

Box 2.1. Challenges and opportunities for the implementation of DaaS in Colombia

ANDI recognises the need to accelerate the country’s digital transformation, while the government has placed particular emphasis on inclusiveness and closing digital gaps among the territories.

ANDI commissioned a report on the implementation of DaaS in Colombia, which found the following challenges:

- **Personal data protection:** The moment data transfer materialises should be clarified with regards to DaaS suppliers.
- **Risk aversion by procurement officials:** The rules should be clarified and showcase good practice examples through pilot projects, raising awareness amongst control entities so that they understand the modality and do not block its use.
- **The possibility of contracting services beyond a 12-month period:** Since most DaaS contracts can be expected to go beyond 12 months, it is important to review the normative framework to establish exceptions to the annual principle (*principio de anualidad*) and overcome rigidities.
- **Price prevalence:** Award processes tend to favour the price criterion, which may lead to end up procuring poor quality equipment.

Additionally, the report recommends implementing regulatory sandboxes to open opportunities for experimentation of value propositions relative to innovative public procurement. This could temper regulatory uncertainty and risk aversion.

Source: ANDI (2021^[6]), *Consultoría para la implementación del modelo DaaS en compra pública en Colombia: Análisis, viabilidad jurídica y mecanismos de implementación*.

The framework agreement strategy is supported by the TVEC and its catalogue, designed by the CCE to address the different scenarios and needs of the contracting entities, which identify the fiches of the products that better meet their requirements on the understanding that there may be minimal variations that do not impact on performance, observing the principle of neutrality with respect to the available brands in the market.

The computing equipment in the catalogue was selected based on performance and suppliers must demonstrate that they meet the required level when delivering to the contracting entity. If a user requires a different type of equipment on the basis that it does not fit the current specifications, it may request its inclusion via the CCE and justify the performance features required.

According to the CCE, the main achievement of these strategies has been the standardisation of the technical characteristics of the computing equipment procured, as a good of common use throughout the public administration. While the COVID-19 crisis led to delays in the delivery of components, it also opened the opportunity to look for substitutes with equivalent performance but at lower cost.

In terms of risks, given that the computers and laptops procured are imported, problems in the supply chain of components may lead to delays in delivery and an inability to meet institutional goals. Planning would be key to mitigating these risks.

Drafting of tender documents and the use of vendor-neutral technical specifications

Considering that purchase orders by contracting authorities under the framework agreement must follow the conditions set forth, there is a good level of standardisation in contract clauses to procure computing equipment and accessories. Indeed, the framework agreement aims to establish: i) conditions to buy or lease computers; ii) conditions for contracting authorities to subscribe to it; and iii) conditions for payment for the acquisition or lease of computers.

The CCE has not produced manuals for drafting tender documents to procure computers. However, standardisation in contractual procedures could be advanced through the use of template documents (*documentos tipo*) that include enabling conditions, technical, economic and other factors determining the selection of suppliers.

The parameters defined in the framework agreement include the operating system, screen resolution, benchmark version, energy saving, levels of information security, environmental certifications, military degree certifications, data migration, extended guarantee and preventive maintenance, among others. Additionally, the minimum requirements for computer configuration include the performance score, CPU, RAM, solid-state drive (SSD), graphics card, network connection, interfaces, data security, eco-labels, military certifications and energy-saving certifications. The use of the latter certifications should be mindful of the risk of excluding potential suppliers, so it would be important to work with the market to ensure they are aware and ready.

Award criteria and procedures

The regulatory framework establishes thresholds to determine the type of procurement procedure to follow:

- Minimum value (*minima cuantía*): This threshold represents 10% of the value of lesser amount (*menor cuantía*). Procurement below this value takes place through a minimum-value abbreviated selection, which means that the contracting entity invites suppliers to bid and establishes the conditions to satisfy its needs. The length of this procedure is very short.
- Lesser amount (*menor cuantía*): This value is established based on the budget of each contracting entity (between 280 and 1 000 monthly minimum wages) and leads to an abbreviated selection process. The length of this procedure is short and allows contracting entities to define enabling conditions and weighting criteria.

- If the amount exceeds the minimum value, the contracting entity must verify if there is a framework agreement that satisfies its needs. If the framework agreement does not exist, the entity applies the procedure for lesser amount or, if the amount exceeds it, a public tender or a reverse auction, according to the characteristics of the equipment to procure.

Purchase orders for computing equipment uploaded to TVEC under framework agreements illustrate that direct awards decreased significantly from 2020 to 2023. The special regime was the most used procedure in terms of amounts procured, except in 2020 when direct awards concentrated the highest amount (Table 2.6). Procurement through minimum value procedures during 2020 and 2022 had the highest average number of bidders (Table 2.7).

Table 2.6. Purchase orders of computers in the TVEC under framework agreement by type of procedure, 2020-23

Year	Type of procedure	Contracts awarded	Value (COP)
2023	Direct award	8	42 453 160
	Two parts agreements	1	10 000 000
	Special regime	3	570 580 911
2022	Direct award	26	177 559 603
	Minimum value	54	995 102 050
	Two parts agreements	3	139 486 475
	Public tender	1	404 998 638
	Special regime	121	2 722 153 708
	Abbreviated selection	5	1 624 956 070
	2021	Direct award	39
	Minimum value	66	923 735 173
	Special regime	379	8 569 788 785
	Abbreviated selection	18	6 905 768 657
2020	Direct award	33	71 398 288 937
	Minimum value	84	1 111 175 590
	Two parts agreements	2	3 159 450
	Special regime	307	4 089 080 909
	Abbreviated selection	12	3 888 894 434

Note: The highlighted cells indicate the highest values per year.

Source: Information provided by the CCE.

Table 2.7. Average number of bidders by type of procedure for the procurement of computing equipment, 2020-22

Year	Type of procedure	Average number of bidders
2022	Abbreviated selection	6.5
	Special regime	0.25
	Minimum value	6.7
2021	Abbreviated selection	6.9
	Minimum value	4.8
2020	Abbreviated selection	4.2
	Minimum value	5.1

Note: The highlighted cells indicate the highest values per year.

Source: Information provided by the CCE.

Selection criteria are defined by law and include legal capacity, financial capacity, experience and technical specifications. The CCE defines these criteria in framework agreements, which cannot specify brands or specific suppliers. Price is the predominant selection criterion, even where other criteria are scored such as certifications, parts collection, waste management and social criteria.

The framework agreement establishes benchmarks in terms of performance. The benchmark currently used is PCMark 10 and the contractual arrangements require the use of the most updated PCMark version. The use of this benchmark was not decided unilaterally but in consultation with suppliers and the industry. In order to mitigate the risk of the benchmark being manipulated through hardware tweaks, a testing protocol was implemented. The benchmark score is guaranteed through the performance of such testing protocol, which includes hardware tests and a general review by the contract overseer. Furthermore, given the time it takes to review the framework agreement, caution should be exercised to avoid the benchmark becoming obsolete.

National treatment is granted to international suppliers to fulfil commitments stemming from international trade agreements. Any supplier, independent of its origin, can bid without establishing a subsidiary in Colombia. However, if it were selected, it would be required to formally establish a subsidiary to execute the contract.

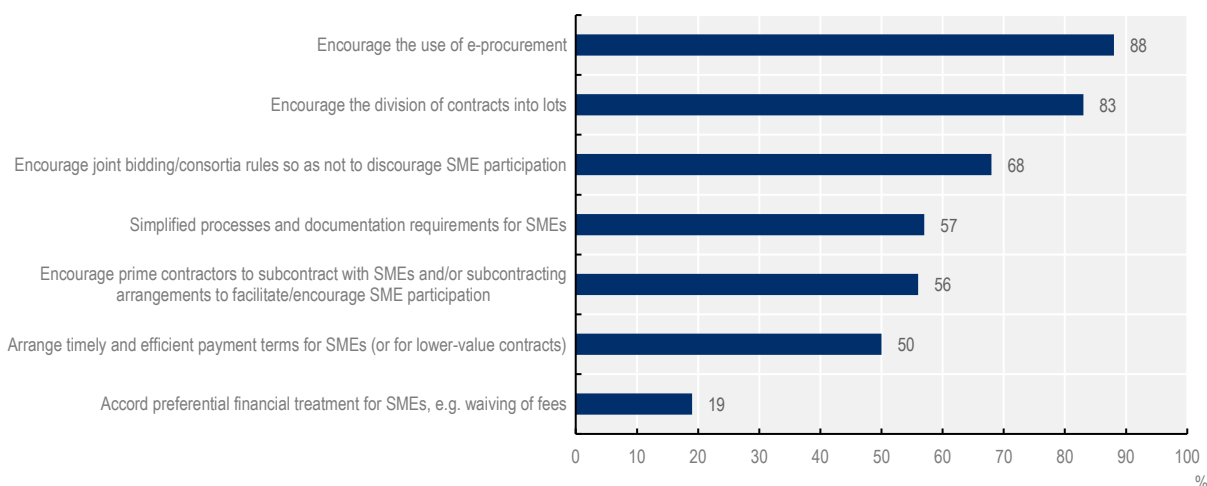
Framework agreements

As mentioned previously, the CCE currently uses the framework agreement to procure computers and accessories (purchasing and leasing) as the single tool to aggregate demand. It will be in force for three years and can be extended for an additional 12 months. As of March 2023, 75 suppliers had subscribed to the framework agreement.

The structure of the framework agreement is intended to allow the participation of as many suppliers as possible as long as they meet the standards for the adequate execution of contractual conditions. In this sense, the framework agreement adopted a regionalisation strategy to attract SME participation and a diversity of brands. Indeed, the CCE defined SME inclusion as a priority. The framework agreement was segmented into six regions (1 national and 5 regional), using more than 20 lots for the different types of computers and accessories. It also allows joint bids through temporary partnerships and consortia. Furthermore, it established procurement amounts for SMEs. This strategy led to this framework agreement having the highest number of participation applications (105) and the highest number of awarded bidders, facilitating competition in the computer market. Ninety of the 105 applications came from SMEs. Indeed, the division of contracts into lots and joint bidding are some of the most recurrent strategies in OECD

countries to facilitate the participation of SMEs in public procurement (Figure 2.4). There is, however, a risk to be aware of in terms of hindering value for money by impeding competitive suppliers from participating in the different regions and contracting authorities ending up paying higher prices. For example, a supplier participating in the national lot cannot engage in a regional one.

Figure 2.4. Measures and approaches used to support SMEs in public procurement (percentage)



Note: Based on survey responses received from 20 OECD and 5 non-OECD countries.

Source: OECD (2018^[7]), *SMEs in Public Procurement: Practices and Strategies for Shared Benefits*, <https://doi.org/10.1787/9789264307476-en> (accessed on 8 August 2023).

From a technical point of view, procurement based on functional and performance specifications, such as those assessed through benchmarking, also facilitates competition by hindering brand biases. Regarding bid rigging, the Superintendencia de Industria y Comercio (*Superintendencia de Industria y Comercio*, SIC) is the competition authority in charge of suggesting measures to prevent it. According to the CCE, the risk of bid rigging is not significant, given the high number of suppliers in the market.

During the fact-finding mission, the OECD heard positive feedback from industry representatives and users in the sense that the framework agreement is efficient in terms of time to award contracts and savings stemming from timely technological choices. While the framework agreement has some flexibility to keep updated catalogues and incorporate equipment as it enters the market, the CCE may want to pilot dynamic purchasing exercises, and document findings and results so that it proposes legal reforms to allow the possibility for this procurement modality. Users also pointed out this opportunity and would create opportunities to update benchmark metrics.

User participation

User feedback can be critical to advance towards better outcomes when it comes to ICT procurement. It is helpful, for example, to build user profiles and define the characteristics of the equipment to be procured in line with the specific tasks to be performed. Value for money can be realised by maximising the use of the features of the equipment procured or, in other words, providing users equipment tailored to their needs, avoiding applications and characteristics that will not be useful their specific tasks. However, it is also useful to evaluate user experience with the equipment procured in the past and, if needed, adjust accordingly.

Just like in the case of Chile, during the fact-finding mission, the OECD heard from users that there could be more direct feedback channels to make suggestions to improve the management of the framework

agreement. This is key as one of the opportunities pointed out by the industry is that contracting entities sometimes enter into parallel agreements to avoid purchasing through the framework agreement, which may lead to biases for an operating system or brand, eventually ending up in vendor-lock-in. For example, one of the municipalities expressed that they sometimes avoid framework agreements because services not included are expensive and unsatisfactory. This may indicate the need to set up mechanisms for users to point out opportunities and for the CCE to allow such feedback and build on direct user experience.

Current practices for the procurement of computers in Mexico

Public procurement in Mexico represents about 4.5% of GDP and 16% of government expenditures.⁴ The procurement activity of the federal government, as well as procurement carried out by subnational governments but funded with federal transfers, is governed by a set of laws and secondary regulations.

First, the Political Constitution of the United Mexican States (*Constitución Política de los Estados Unidos Mexicanos*, CPEUM) establishes in Article 134 that the financial resources spent by the federation, the federal states, the municipalities and the territories of Mexico City should be managed following principles of efficiency, economy, transparency and honesty. Likewise, it dictates that procurement, leasing and acquisitions of goods and services, as well as the contracting of public works, should prioritise the best conditions for the state in terms of price, quality, financing, opportunity and other relevant circumstances.

The constitutional mandate is then elaborated in a set of laws and secondary regulations. For the procurement of goods and services, the main regulations are the Law on Acquisitions, Leasing and Services of the Public Sector (*Ley de Adquisiciones, Arrendamientos y Servicios del Sector Público*, LAASSP) and its bylaws (*Reglamento de la Ley de Adquisiciones, Arrendamientos y Servicios del Sector Público*).

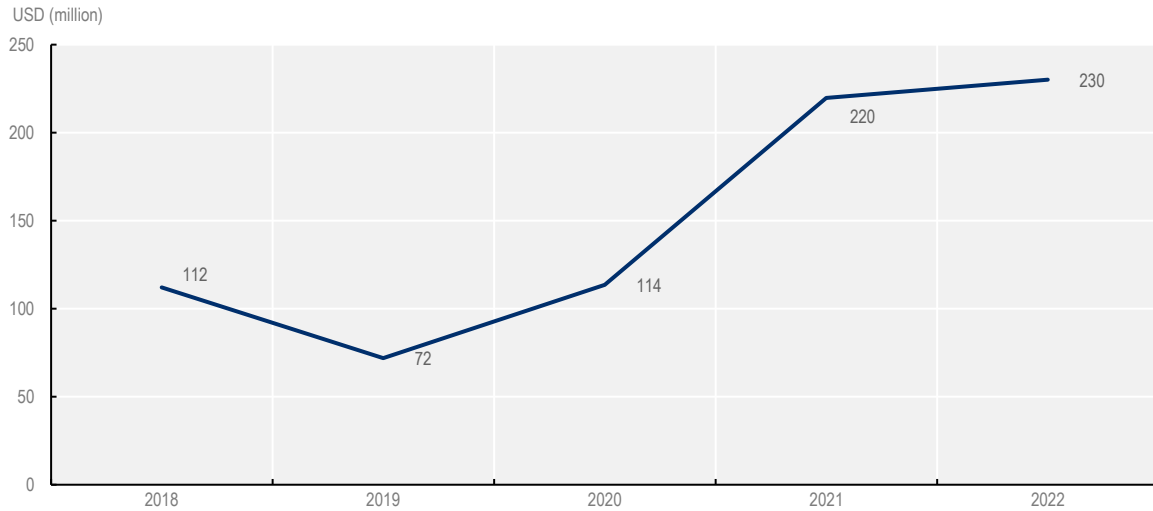
Other applicable laws for the procurement of computers and laptops include the Agreement issuing policies and guidelines to advance the use and leverage of ICT, digital government, and cybersecurity in the federal public administration (hereafter the Agreement) and the National Digital Strategy (*Estrategia Digital Nacional*, EDN), and other general rules such as the Federal Law of Republican Austerity (*Ley Federal de Austeridad Republicana*) and the Guidelines on Republican Austerity for the Federal Public Administration (*Lineamientos en Materia de Austeridad Republicana de la Administración Pública Federal*).

A reform to the Organic Law of the Federal Public Administration (*Ley Orgánica de la Administración Pública Federal*, LOAPF) in May 2023 allocated the procurement function to the Ministry of Public Administration (*Secretaría de la Función Pública*, SFP). Article 37, Section XXI Bis, grants the SFP the power to serve as consolidating entity in procedures for procuring goods and services. For that purpose, the SFP can determine the goods and services of general use that should be procured in a consolidated manner. Within the SFP, the Unit for Consolidated Public Procurement is in charge of co-ordinating consolidated procurement procedures and setting up framework agreements, supervising the drafting of framework agreements and their modifications, according to Article 44 of the Internal Bylaws (*Reglamento Interior de la Secretaría de la Función Pública*).

ICT procurement, including for computers and laptops, should follow principles of technological sovereignty and independence, as established in the Agreement. It follows that the procurement model should adopt and develop open standards that allow interoperability, scale, sustainability and stability, as well as flexibility to incorporate technological evolution, considering technological sovereignty and independence for the benefit of the state. Furthermore, market research should ensure the existence of a diversity of suppliers. Likewise, the LAASSP bylaws require explicit justification from the contracting entity in the event it demands a specific brand.

The procurement of computers and laptops has increased over the last five years, except in 2019 (Figure 2.5).

Figure 2.5. Value of the procurement of computers and laptops in the federal public administration, 2018-22



Source: Information provided by the Ministry of Finance and Public Credit.

The top five institutions of the federal public administration in terms of procurement of computers and laptops changed from 2021 to 2022, except for the Mexican Institute for Social Security (*Instituto Mexicano del Seguro Social*, IMSS) (Table 2.8). The sectors to which these institutions belong are mostly education and health.

Table 2.8. The top five institutions of the federal public administration in terms of procurement of computers and laptops, 2021-2022

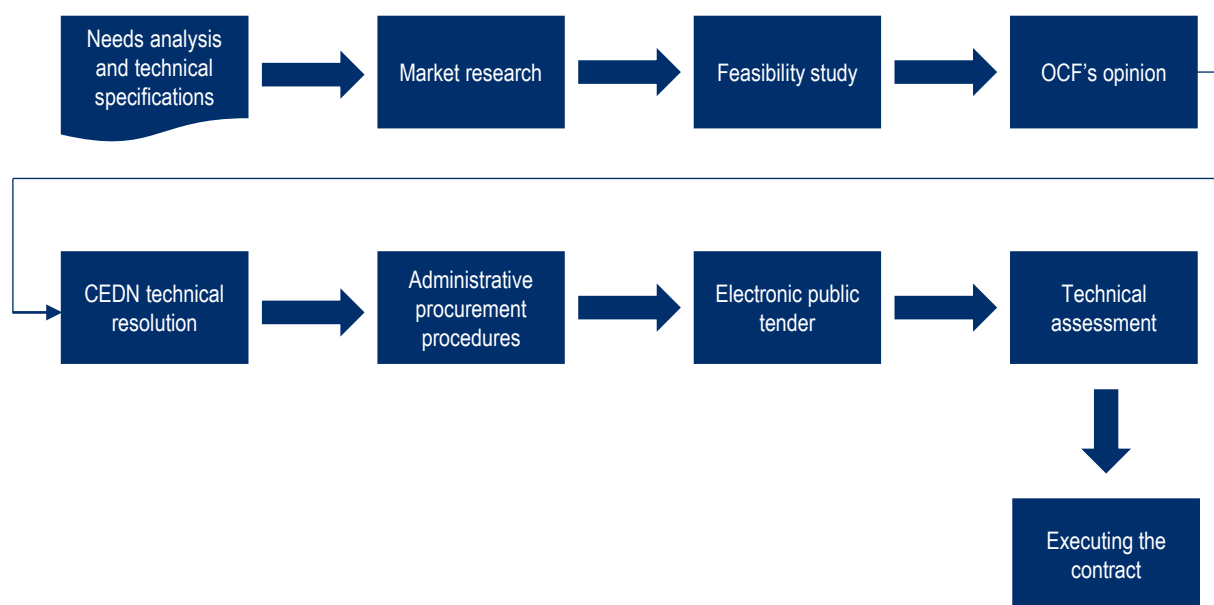
2021		2022	
Institution	Value (USD)	Institution	Value (USD)
Ministry of Labour (STPS)	28 648 556	IMSS**	53 043 118
IMSS**	17 055 126	General Attorney's Office (FGR)	41 964 829
Ministry of Education (SEP)*	14 885 575	Institute for Security and Social Services of the State Employees (ISSSTE)**	36 645 877
Ministry of Foreign Affairs (SRE)	14 467 480	Federal Education Authority in Mexico City*	31 931 711
National Co-ordination for Benito Juárez Scholarships*	12 856 397	National Service for Animal and Vegetal Health and Quality (SENASICA)	4 335 622

Note: * denotes an institution in the education sector; ** denotes an institution in the health sector.

Source: Information provided by the Ministry of Finance and Public Credit.

In general terms, the procurement of computers and laptops follows the process illustrated in Figure 2.6.

Figure 2.6. Overview of the procurement procedure for computers and laptops



Note: CEDN = National Digital Strategy Coordination; OCF = Control and Audit Body.

Source: Information provided by the Ministry of Public Administration.

Needs analysis and procurement planning

Two instruments are key for planning the procurement of computers and laptops and anticipating demand: the Annual Procurement, Leasing and Services Programme (*Programa Anual de Adquisiciones, Arrendamientos y Servicios*, PAAAS) and the Portfolio of ICT Projects (*Portafolio de proyectos de tecnologías de la información y comunicación*, POTIC). Each ministry and contracting entity should prepare a PAAAS and upload it to CompraNet, Mexico's e-procurement platform, by 31 January every year. It can be adjusted throughout the year but the SFP must be informed of such changes and updated every month in CompraNet.

As described before, all ICT projects (including the procurement of computers and laptops) should be aligned to the National Development Plan and the EDN, as well as to the rules on budget, austerity and transparency. The planning is formalised in the POTIC.

When a ministry or contracting entity wants to initiate the procurement of computers or laptops it has to request the CEDN technical resolution; a pre-requisite is for the corresponding POTIC to have been approved, with no outstanding comments to be addressed. The requests filed by ICT Units (*Unidades de Tecnologías de la Información y Comunicaciones*, UTICs) must include the following:

- **Justification:** Presentation of the background, current situation and needs motivating the procurement.
- **Technical annex:** Description of technical and quality specifications, as well as the scope of the procurement process.
- **Market research findings:** These are issued by the corresponding specialised unit in the contracting entity, which analyses the findings from market research, including identification of estimated prices for each technology component required.
- **Cost-benefit analysis:** Assessment of potential procurement alternatives and their feasibility.

- **Feasibility analysis:** Decision on the convenience to procure, lease or contract goods or services, including the analysis of ongoing procurement and the adequacy of renewing it, the benefits from leveraging framework agreements or consolidated procurement, as well as maintenance, support and operation costs.
- **Budget sufficiency:** This is issued by the contracting entity's corresponding programming and budgeting unit, which validates that the contracting unit budgeted the necessary resources and, therefore, has budget sufficiency to meet payment commitments stemming from procurement procedures.

Once these documents are integrated, the UTIC sends them to the institutional Control and Audit Body (*Órgano de Control y Fiscalización*, OCF) for review and approval. The OCF's review looks exclusively at procedural and normative compliance, respecting the CEDN's technical opinion. Once the UTIC has a favourable opinion from the OCF, it can send the complete file to the CEDN, which has 15 working days to carry out its review. The CEDN resolution might be favourable, unfavourable, requesting adjustment of the scope or requesting clarification.

In terms of needs analysis, the industry has expressed concerns about the lack of profiling users according to their needs, which could make the framework agreement less attractive. This is so even when the CEDN claims that in the preparation of computer equipment profiles, the industry, through business chambers, participated in the formulation of technical standards. The framework agreement for the leasing of computers was updated with new profiles in January 2023.

Market research

According to the SFP's Internal Bylaws, its Unit for Planning and Market Research (*Unidad de Planeación e Investigaciones de Mercado*, UPIM) is in charge of, among other things:

- Leading planning analyses and processes to identify goods and services of general use subject to aggregating demand.
- Determining the criteria for market research methodologies.
- Co-ordinating market research relative to consolidated procedures and framework agreements.

According to the LAASSP, the objectives of market research are:

- Determining the availability of goods and services in terms of quantity, quality and opportunity required.
- Verifying the existence of national and international suppliers with the capacity to meet the procurement needs.
- Defining the prevailing price of the required goods or services.

Market research, if conducted adequately, could be useful to overcome the practice of "reinventing the wheel" with every change of administration. Market analyses are conducted according to the Administrative Manual of General Application relative to Procurement, Leasing and Services of the Public Sector (*Manual Administrativo de Aplicación General en Materia de Adquisiciones, Arrendamientos y Servicios del Sector Público*, MAAGMAASSP). The UPIM also produced a document called "Elements to consider in market research", which provides guidance for procurement officials.

The UPIM co-ordinates ministries and contracting entities for the procurement planning process and analyses their requirements for goods and services that could be standardised. It carries out a feasibility analysis to assess the possibility of aggregating demand. Such an assessment includes the analysis of spending in the last three years at the least, the PAAAS, criteria for standardisation (i.e. quality, delivery conditions, validity, etc.), the degree of procurement recurrence, previously awarded suppliers, the number

of ministries and contracting entities requiring the good or service, as well as the potential benefits from aggregating demand.

During the process, the UPIM meets with the users to estimate requirements and volumes (i.e. what and how much will be procured). It then determines the technical specifications and scope of the requirements, including technical, physical and normative characteristics that potential suppliers must meet to participate. If the UPIM finds it convenient, it issues “consolidation resolution” (*dictamen de consolidación*) confirming standardisation, the recurrence and relevance of the amount to be procured.

The UPIM then proceeds to identify potential suppliers by consulting several sources: CompraNet information from previous years, the Internet, previous market analyses, business chambers and official databases. It sends a request for quotes (RFQ), using standard format FO-CON-04 (Box 2.2) to the identified suppliers, then publishes it on CompraNet to communicate widely and advance inclusion. As part of the RFQ, there is time for participants to ask questions related to the procurement procedure, which are uploaded to CompraNet, along with the corresponding answers.

Box 2.2. The standardised RFQ format FO-CON-04

The format FO-CON-04 is a standardised template through which the UPIM requests quotes from potential suppliers. For this purpose, the UPIM must include the following information:

- Goods, leasing or services to quote.
- Delivery conditions (i.e. one-off or partial deliveries, delivery location, etc.).
- Payment due 20 days after invoicing, subject to satisfactory delivery of the goods or services.
- Advance payment, if applicable.
- Guarantee percentage.
- Sanctions in case of delays or lack of compliance.
- Annex including technical specifications required.
- Technical regulations and testing methods to verify compliance.
- Origin of the goods and suppliers’ nationality.
- In the case of imports, currency for the quote.
- Production time (if it exceeds 60 days).
- Request to indicate installation and training costs.

Source: CompraNet, https://compranetinfo.hacienda.gob.mx/un/doctos/adquisiciones/maag_fo-con-04_2013-02-03.doc.

Once quotes are received, they are consolidated in a format called FO-CON-05 and reviewed to analyse prices and other conditions, such as quantity, opportunity, quality and origin of the goods. Likewise, the UPIM analyses historical prices from previous procurements registered on CompraNet. With the information collected, price parameters are calculated (i.e. maximum, minimum, average) to determine the prevailing price that incorporates the best conditions for the state in terms of quantity, quality and opportunity.

The findings of the market research are compiled in a report that is organised as follows:

- Objective.
- Legal justification and market research framework:
 - LAASSP.

- Manuals, guidelines, and other related documents.
- Findings from the market research.
- Regulation for the type of good or service.
- Regulatory barriers for suppliers and purchasers.
- Procedures:
 - Analysis of the good or service.
 - Demand determination and conditions.
 - Supply identification.
 - FO-CON-05.
 - Price analysis.
 - Conclusions.

In summary, thorough market research should end up providing the information illustrated in Table 2.9.

Table 2.9. Information obtained from the market research process

Element	Description
Prices	Quoted prices, historic pricing, price parameters and prevailing price
Information about potential suppliers	Segment, capacity, opportunity, coverage, origin of the good or service, origin of suppliers, revenue, main clients, compliance with regulations and required conditions and logistical capacity
Goods or services	Availability of the goods or services in the required conditions and potential substitutes
Supply characteristics	Characteristics of the sector (number of participants, segments, revenue, profit margin, presence), degree of competition (oligopoly, monopoly, etc.), supply chain, producers, intermediaries and final consumers
Recommendations	Type of procedure (open tender, direct award, etc.), procurement strategy (consolidation, framework agreement, etc.) and type of open tender (national or international)
Barriers to competition	Technical specifications inhibiting competition, clusters, alliances, etc.
Regulatory framework	Applicable rules in force

Source: Information provided by the Ministry of Finance and Public Credit.

Tender strategies

Even though the regulatory framework anticipates the possibility of consolidated procedures and framework agreements for the procurement of goods of common use throughout ministries and contracting authorities, as is the case of computers and laptops, only a framework agreement was drafted for leasing, and in fact, this is the preferred tool also for other ICT such as software, cloud, Internet, printing, data warehouse, LAN and wireless LAN networks. There are 26 computer equipment profiles and 12 peripheral profiles in the framework agreement for leasing computers.

The strategy is supported by two tools: CompraNet⁵ and the virtual store.⁶ Mexico's e-procurement platform, CompraNet has been in operation since 1996. It used to be an outsourced platform but, on 2 January 2022, a new version was launched, fully owned by the Mexican government. The unit currently in charge of managing CompraNet is the SFP's Unit for the e-Procurement System (*Unidad del Sistema Electrónico de Contrataciones Públicas*).

The SFP issues an intention statement and establishes in an annex the characteristics and technical requisites that interested suppliers must fulfil to formalise a framework agreement. After analysing the legal, administrative and technical documents the interested suppliers provide, they may endorse the framework agreement if they meet the requirements. The full procedure is published on CompraNet.

One of the modules in CompraNet is the virtual store backing up framework agreements. The virtual store was established through an Agreement on 18 July 2019. Contracting entities could lease computers directly if the models procured are included in the electronic catalogue stemming from the framework agreement. During OECD interviews, officials from the Chief Administrator's Office (*Oficialía Mayor*, OM) of the Ministry of Finance and Public Credit (*Secretaría de Hacienda y Crédito Público*, SHCP)⁷ justified the leasing option with two reasons:

- It allows them to avoid the equipment becoming obsolescent and keep it up to date.
- There are burdensome and complex procedures to dispose of old computers.

According to CEDN officials, the framework agreement for leasing computers has led to several achievements, such as setting maximum prices and standardising the equipment required, as well as decreased times to complete purchases. The framework agreement may be revised yearly to avoid obsolescence, review reference prices and improve operations.

While the framework agreement has been useful for standardisation purposes, OM officials recognise the challenge of making the computers and laptops available in the electronic catalogue apt for the jobs of most officials. Building feedback loops from users may be a good alternative to collect their opinions on the adequacy of the model offered.

Drafting of tender documents and use of vendor-neutral technical specifications

As mentioned previously, technological sovereignty and independence are established as procurement principles in the Agreement. The procurement model should adopt and develop open standards that allow interoperability, scale, sustainability and stability, as well as flexibility to incorporate technological evolution, considering technological sovereignty and independence for the benefit of the state.

The framework agreement for leasing computers establishes requisites and technical specifications that suppliers should meet and contracting entities cannot require additional specifications. The CEDN leads such a definition. If justified, contracting entities can request authorisation to procure outside the framework agreement but this is rather exceptional and related to seeking the best contracting conditions for the state. The framework agreement for leasing computers establishes standard documents in annexes that suppliers should include in their bids (Table 2.10).

Table 2.10. Standard documents suppliers should include in their bids to subscribe to the framework agreement for the lease of computers

Annex	Description
A	Format to declare under oath the legal existence and identity of the natural or legal person
B	Format to declare under oath that the interested supplier does not match any of the criteria in Articles 50 and 60 of the LAASSP ¹
C	Integrity declaration
D	Format to declare compliance with the laws applicable to the framework agreement
E	Stratification of the legal or natural person
F	Economic offer
G	Technical offer
H	Format to declare under oath that prices or discounts offered have not been agreed upon with other potential suppliers ²
I	Format for the potential supplier to commit to ensure full compliance with leasing of the goods
J	Declaration on business, working, professional, personal or consanguinity relations, up to the fourth grade, with public officials
K	Format to declare under oath the legal, technical and financial capacity, as well as the experience, administrative organisation and human resources to comply with the duties stemming from the framework agreement

1. These articles list criteria to exclude potential suppliers, such as conflicts of interest of procurement officials, lack of compliance in previous procedures (delays, quality, etc.), and blacklisted companies.

2. This document aims to prevent bid rigging.

Source: Ministry of Finance and Public Credit (n.d.^[8]), "Comunicado 2023/1/08, Comunicado to interested suppliers in the sixth adhesion round to the framework agreement for the leasing of personal computers and accessories for ministries and entities of the federal public administration".

The parameters defined in the framework agreement include the operating system, screen resolution, benchmark version and energy saving. Technical annexes establish the latest released Windows OEM operating system or Linux Mint Mate in its latest released LTS version. Additionally, the minimum requirements for computer configuration include the CPU, RAM, graphics card, network connection and interfaces.

Award criteria and procedures

The framework agreement for leasing computers establishes award criteria and procedures:

- If the procurement does not exceed the threshold amount for direct awards established in the first paragraph of Article 42 of the LAASSP, the contracting entity should request quotes through Compranet from all potential bidders having fulfilled the characteristics of the equipment to be procured.
- If the procurement exceeds the threshold, the contracting entity should follow an electronic invitation procedure to at least three bidders.

Notwithstanding the previous conditions, the practice is that contracting entities invite all of the suppliers that subscribed to the framework agreement. In both cases, price is the prevailing criteria to select the supplier. The volumes of procurement of computers and laptops by type of procedure for 2020-22 are shown in Table 2.11, Figures 2.7 and 2.8).

Table 2.11. Number of awarded contracts and procurement amounts by type of procedure for computers and laptops, 2020-22

Year	Type of procedure	Awarded contracts	Amounts (USD)
2022	Public tender	108	55 653 735
	Invitation to at least three bidders	148	82 896 601
	Direct award	228	91 320 893
2021	Public tender	127	21 443 318
	Invitation to at least three bidders	288	167 946 786
	Direct award	307	30 300 689
2020	Public tender	226	38 952 396
	Invitation to at least three bidders	125	19 367 141
	Direct award	291	55 256 064

Source: Information provided by the Ministry of Finance and Public Credit.

As illustrated in Figures 2.7 and 2.8, in terms of number of contracts, direct awards prevailed throughout the 2020-22 period. The same is true in terms of awarded amounts, except for 2021, when the amounts awarded through an invitation to at least three bidders grew significantly.

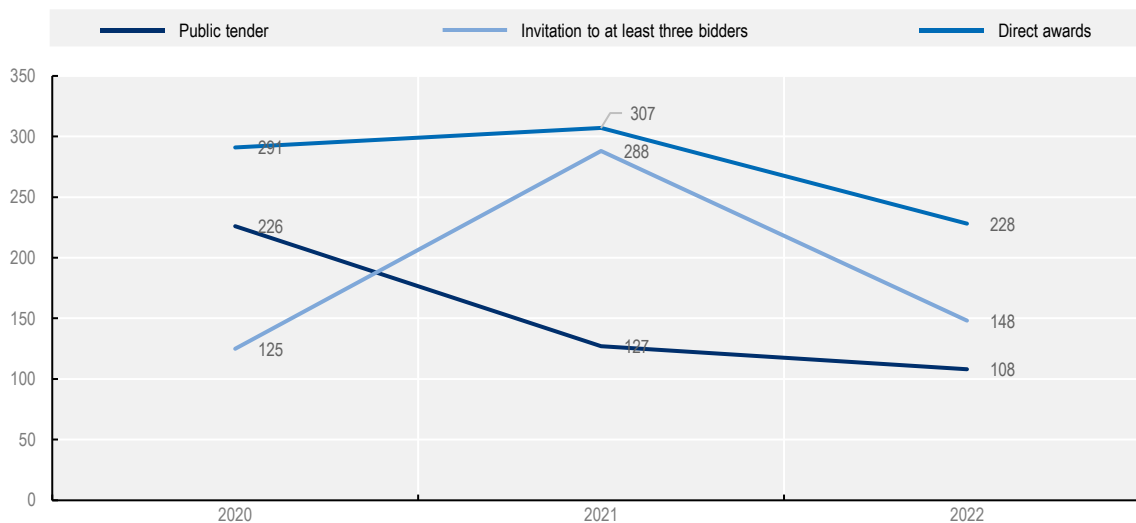
The Agreement establishes that suppliers should meet the following requirements:

- Proven technical experience of the supplier's staff.
- Agreement with confidentiality policies.
- Duties to communicate immediately security incidents that may directly or indirectly affect the contracting entity.
- Duty to support the corresponding authorities in investigations related to security incidents, transgressions or crimes.

- Consideration of measures to rescind the contract and assign legal responsibilities in case suppliers or their staff violate confidentiality policies and agreements or undertake activities that expose institutional information or fail to comply with regulations on personal data protection.

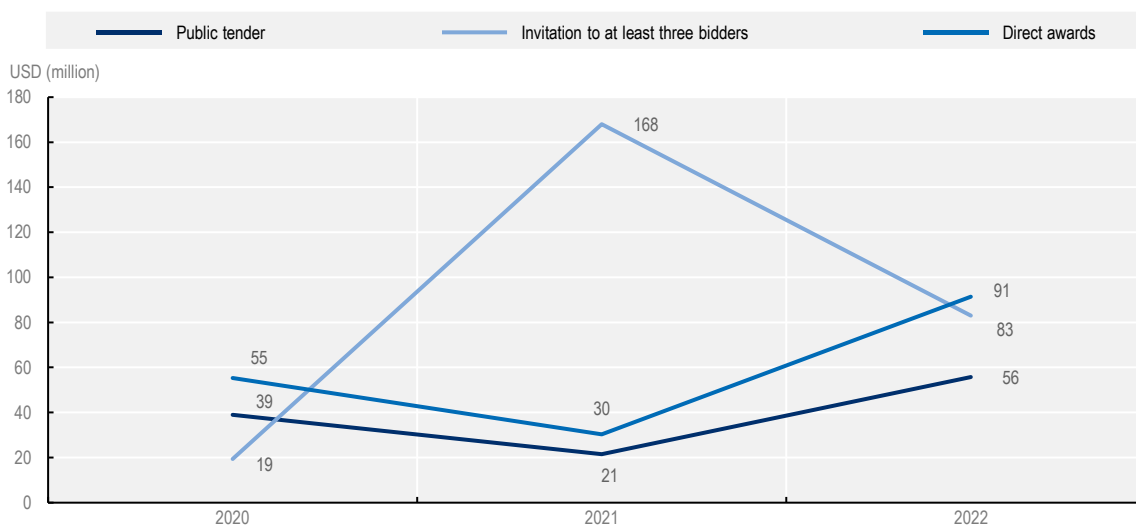
In principle, there are no restrictions to the participation of foreign suppliers. However, in practice, those restrictions exist as framework agreements are not legally considered for international public tenders. Furthermore, the use of certifications is not a common practice.

Figure 2.7. Number of contracts awarded for computers and laptops by type of procedure, 2020-22



Source: Information provided by the Ministry of Finance and Public Credit.

Figure 2.8. Amount of contracts awarded for computers and laptops by type of procedure, 2020-22



Source: Information provided by the Ministry of Finance and Public Credit.

Framework agreements

Framework agreements are tools that have gained traction for goods and services commonly used in different entities. Seventeen framework agreements related to ICT have been implemented since 2020. Aggregating demand is certainly one of the justifications for using framework agreements. Just in 2023, for example, the Federal Education Authority of Mexico City (*Autoridad Educativa Federal en la Ciudad de México*, AEFCDMX) ordered about 42 000 devices.

Formalising a framework agreement requires issuing a statement of intention and establishing a technical annex with the characteristics, technical requirements and information interested suppliers must fulfil to subscribe to the agreement. Legal, administrative and technical documents submitted by potential suppliers are reviewed to assess compliance and, if approved, they can subscribe to the framework agreement. The full process is published on CompraNet.

The framework agreement for leasing computers and accessories includes 26 profiles currently in force, including laptops and tablets, as well as 12 profiles for accessories, which are considered enough to satisfy the general requirements of the federal public administration. Annex 2 to the framework agreement describes the characteristics of the equipment to be leased. The equipment is classified by:

- Type of desktop equipment (Windows or Linux).
- Type of laptops (Windows or Linux).
- Type of computers with Apple technology.
- Tablets.
- Type of equipment and accessories.

Notably, one of the classifications specifically refers to a brand (Apple), which may create lock-in risks. Indeed, Apple technology is the reference to describe those who use the iOs operating system exclusively. Even though this is required in specific cases, it is not considered an essential element to guarantee the quality of the equipment. Additionally, during interviews, Mexico's procurement officials recognised that technical specifications could be more generic; but, in their opinion, there is a risk for the quality of the leased equipment.

In July 2019, the SHCP, then in charge of the procurement function, issued an agreement to establish the virtual store of the federal government as a new module in CompraNet. Contracting entities can directly award the leasing of computers to suppliers incorporated in the framework agreement and whose products are described in the virtual store.

The framework agreement is updated as needed and according to technological progress. The incorporation of new suppliers is opened at least twice a year, establishing the equipment characteristics for which bids will be taken, as well as the requirements and processes for suppliers to be incorporated in the framework agreement. However, during fact-finding meetings, the industry expressed concerns about the lack of criteria on obsolescence (e.g. latest available generation, age of system/processor, etc.) and poor timing for upgrades.

The framework agreement anticipates the participation of "natural and moral persons with business activities", which is a business classification to simplify tax reporting procedures. It is worth noting that most of the businesses under this classification are SMEs. At the time of the fact-finding mission (March 2023), there were 67 suppliers for the framework agreement for leasing computers and accessories. Considering Mexico's size, this number seems low.

In order to prevent bid rigging, any procurement under the umbrella of the framework agreement is carried out electronically. So far, no collusion cases or red flags have been identified in the procurement of computers and laptops.

Finally, a notable opportunity linked to the framework agreement for leasing computers and accessories lies in simplifying the requirements for supplier participation. Altogether, the documents required to justify the bidder's legal personality, support the technical offer and demonstrate compliance with legal and administrative conditions are more than 35 items.⁸ Furthermore, the public administration (i.e. tax authorities, social security institutions, etc.) already has some of this information.

User participation

End users are one of the most important considerations in defining procurement outcomes. The procured computers should be easy to use and compatible with user experience and tasks. Establishing feedback loops can offer the means to better understand user needs and support the development of user profiles.

As mentioned before, the SFP considers the profiles included in the framework agreement to be sufficient to satisfy the general requirements of the federal public administration. However, it does recognise that users have sometimes complained of the extent to which the computers offered match their needs and functions. Likewise, there is some degree of resistance to the adoption of cutting-edge equipment and innovations.

As in Chile and Colombia, it would be useful to implement feedback loops from users to the SFP and CEDN so that these institutions can adjust the framework agreement and the items in the virtual store so that computers are better aligned with user expectations.

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Notes

¹ OECD.Stat.

² See https://www.colombiacompra.gov.co/sites/cce_public/files/cce_documents/cce_guia_plan_anual_a_dquisiciones.pdf.

³ See https://www.colombiacompra.gov.co/sites/cce_public/files/cce_documentos/cce-eicp-gj-18_gees_v.2_2.pdf.

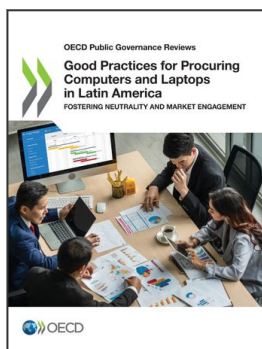
⁴ OECD.Stat.

⁵ See www.compranet.hacienda.gob.mx.

⁶ See <https://www.gob.mx/compranet/documentos/tienda-digital-del-gobierno-federal>.

⁷ At the time of the interviews, the SHCP was in charge of the procurement function. A reform later granted this responsibility to the SFP.

⁸ Ministry of Finance and Public Credit, Communiqué 2023/1/08, Communiqué to interested suppliers in the sixth adhesion round to the framework agreement for the leasing of personal computers and accessories for ministries and entities of the federal public administration.



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