



# WHEN PROCUREMENT IS INNOVATIVE

## **WHEN PROCUREMENT IS INNOVATIVE**

### **THE INNOVATION BAROMETER**

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## Translator's note

This translation of "Når indkøb er innovative" has been done using the DeepL Translator ([deepl.com/translator](https://www.deepl.com/translator)) with as little manual revision as possible. Our aim is to make the results of the Danish Innovation Barometer available to an international audience quickly and easily.

The technical language around procurement and tendering is not easily translated, and the automatic translator tends to use the term "procurement" in cases where the Danish meaning is closer to "tendering". Thus, this translation is far from perfect. Please also note that all legal guidelines and instructions are in accordance with Danish legislation and not necessarily applicable to other EU countries.

If you come across content that is incomprehensible or misleading, please contact Head of Analysis Marie Munch-Andersen at [mma@co-pi.dk](mailto:mma@co-pi.dk).



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# Foreword

They're called different things, but we all know them. The climate crisis. Environmental issues. Labor challenges. Challenges that are difficult to solve within existing frameworks and impossible for any one actor to solve alone. This calls for new solutions created in public-private collaboration. The starting point is strong. A full 83% of public sector workplaces are innovative. An important part of the picture is that the public sector collaborates with private companies on every sixth innovation. This helps to create higher quality and efficiency in Danish public sector workplaces.

However, a qualitative survey conducted by CO-PI in 2022 also points to untapped potential. New public-private solutions sometimes remain at the prototype stage. They are not implemented in operations and therefore do not create value. Typically because procurement is not considered before development starts. And it's difficult to implement something that hasn't been purchased. As a result, it becomes harder for the company to sell the solution to others. This calls for action, as the problems are huge and the potential is enormous: The public sector spends more than DKK 400 billion on purchases from private companies every year - everything from diapers to bridges.

However, daring to buy unfamiliar solutions is harder than it is to rebuy the familiar. If procurement is to be innovative, it therefore requires stronger awareness and support from both administrative and political management. Creating that change requires a stronger, more convincing knowledge base. We need to be curious about the nuances, processes, problems and results. We need to move on from nice stories and narratives, and make sure to secure quantitative knowledge. That's what we do with this publication.

At the same time, we turn things on their head. Previous studies have attempted to measure innovative procurement by analyzing thousands of written tender documents to see if public procurement could result in innovation (European Commission 2021). In the following, we take a reverse look at whether implemented public innovation is created through procurement. By asking thousands of public sector leaders to do just that. This gives us unique new knowledge, which we share here with the ambition to inspire both public and private decision-makers.

With this fourth edition, the Innovation Barometer celebrates its 10th birthday. The authors and the entire CO-PI team would like to take this opportunity to send a special thank you to our partners at Statistics Denmark, Helle Månsson and Claus Werner Andersen. When we decided together in 2014 to create the world's first official statistics on innovation in the public sector, we did not anticipate how difficult and fun it would be, nor how much impact it would have. Innovation Barometers are now published in all Nordic countries, the methodology is codified in the Copenhagen Manual and used in 10 countries so far. And the barometer can continue to evolve as we say goodbye to assumptions and anecdotes in new fields and say hello to representative data we can trust. Like now in the field of innovative procurement.

Ole Bech Lykkebo  
Program Manager  
Center for Offentlig-Privat Innovation

# Reader's guide

In this publication, we put a special focus on innovative public procurement. That's why all the cases and tips throughout the book are about this.

But first we need to set the stage for innovative public procurement, so we start by briefly discussing **public innovation in general**. Over the course of the publication, we move further and further "into the circle". We get past the 16 percent of all public innovations that are **public-private innovation**, the 11 percent that are **innovative public procurement (IPP)** and finally the two percent that are **innovative public procurement put to tender**. Note that the four groups are nested within each other. Thus, all innovative public procurements by tender are also included in the general group of innovative public procurements, all innovative public procurements are public-private innovations and all public-private innovations are public innovations.

The figures in this publication include procurements and tenders that take place in public-private partnerships. A procurement can be important for an innovation, but we do not consider it to be an innovative procurement if the addition of something new is not done in collaboration with the company. Innovative public procurement where the supplier is not a private company but, for example, a university, is also not included in the figures.

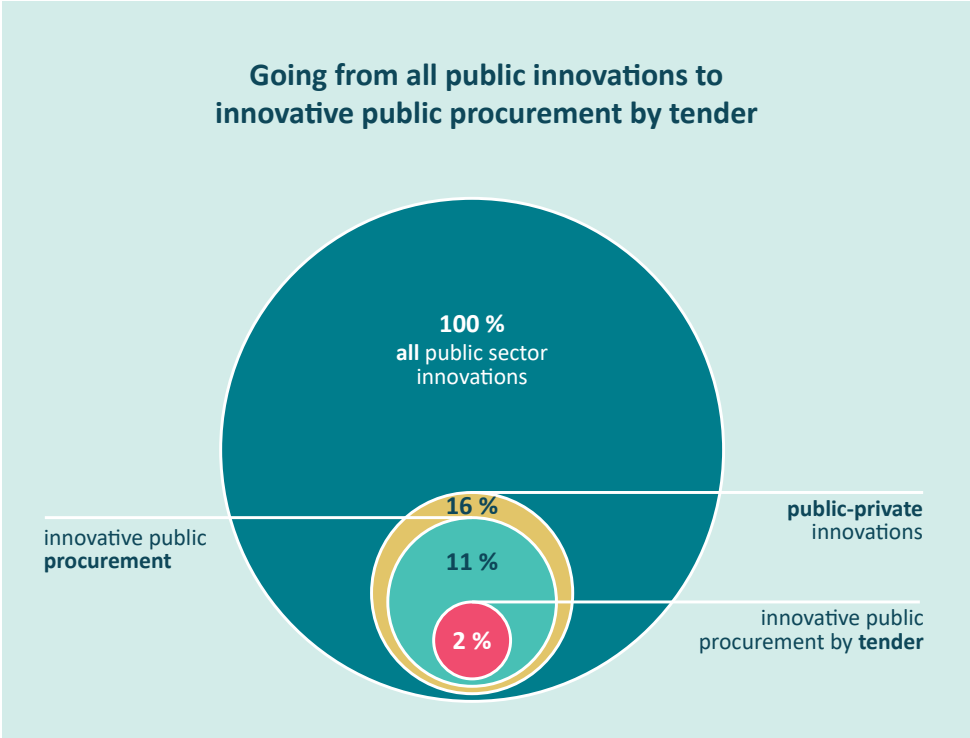


Figure 1: The figure shows how many public innovations are public-private innovations, innovative public procurement and innovative public procurement in tenders. Data is weighted to represent the public sector as a whole. All public innovations, n=1,352, public-private innovations, n=247, innovative public procurement, n=174, innovative public procurement put out to tender, n=36.

1

# PUBLIC SECTOR INNOVATION





# What is public sector innovation?

Public innovation is doing something new that creates value. This means that public workplaces have introduced new or significantly changed organizational forms or processes, services, products or ways of communicating with the outside world. Innovations must be new in the sense that they are new to the workplace, but they don't have to be developed by the workplace itself. Public innovation can also be inspired by what others are doing, but adapted to the workplace implementing the innovation - or more or less a copy of what others are doing. It is crucial that the innovation has been implemented and has created one or more forms of value. The value created by public innovation can be better quality and increased efficiency, but also that citizens have gained greater insight or influence, that employees are more satisfied or that political goals have been met.

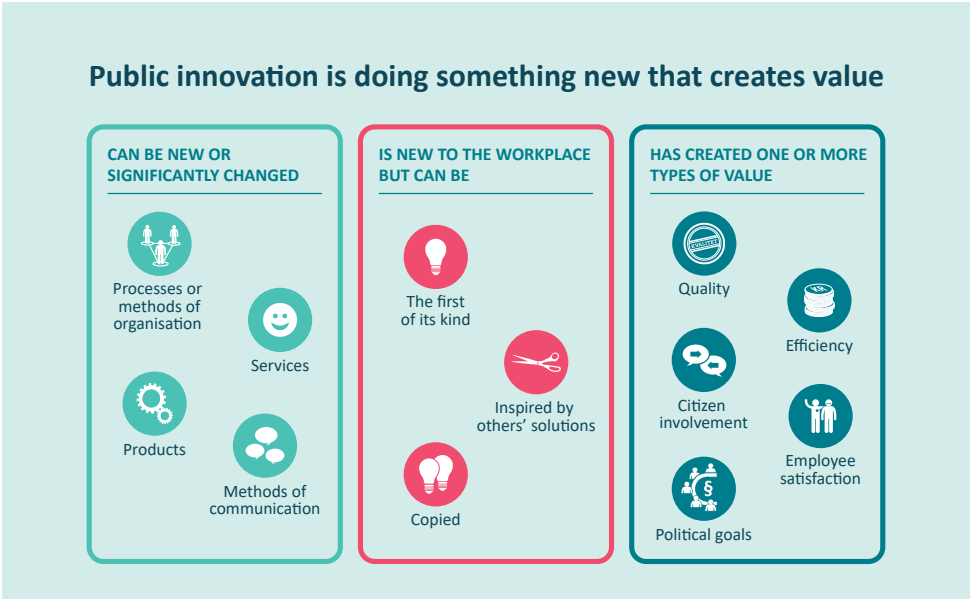


Figure 2: The figure illustrates the definition of public innovation.

When we ask Danish public sector workplaces in the Innovation Barometer whether they have introduced one or more innovations that meet this definition, the answer is an overwhelming "yes". 83% of Danish public sector workplaces have introduced one or more innovations within the two-year period from spring 2021 to spring 2023. We call these innovative workplaces. The proportion of innovative workplaces is in line with both previous editions of the Innovation Barometer and similar international studies (COI 2019).

To get closer to the specific innovations, the Innovation Barometer asks about the workplace's most recent innovation. The figures presented in this publication are therefore concerned with the most recent innovation in a representative sample of Danish public workplaces.

## **Innovation is not just about products**

The word 'innovation' may bring to mind technical gadgetry, but the Innovation Barometer shows that public innovation is broader than that. Only 22 percent of public innovations are products, while 29 percent are service developments, and 37 percent is the way the public workplace communicates with the outside world.

The most common form of innovation is process and organizational innovation, which is part of eight out of ten public innovations (79%). For example, it's about the way work is organized. Many innovations consist of several types of innovation, which is why process and organizational innovation often happens in conjunction with one of the other types of innovation. However, it's worth noting that only one in five public innovations, that is not also about how to organize work.

The fact that process and organizational innovation is the most frequent type of innovation applies not only to public innovation in general, but also to public-private innovation, innovative public procurement in general and the group of innovative public procurement that is put out to tender. In all cases, between seven and eight out of ten innovations contain process and organizational innovation.

There is a tendency for communication innovation to become more frequent the further we move "into the circle" towards innovative public procurement through tendering. Thus, just over half just over half (51 percent) of innovative public procurement in tenders contain communication innovation. Overall, however, the differences are relatively small, and it is only when the broad group of innovative public procurement (with and without tendering) is compared with all other innovations that we can statistically speak of a difference.

However, when it comes to service innovation and especially product innovation, it is clear that these are forms of innovation that are more prevalent in both public-private innovation in general and innovative public procurement. The largest shares are within innovative public procurement put out to tender. 45 percent of IOIs put out to tender contain service innovation and 46 percent contain product innovation.

Again, it is important to remember that the individual types of innovation often do not stand alone - even when it comes to product innovation. Even within IOIs in tenders, which is the most product-heavy category, nine out of ten innovations (91 percent) consist of more or less than product innovation alone. So, even though product innovation is more frequent in public-private innovation and innovative public procurement, the big picture reflects that public innovation is (also) much more than products.

## Public innovation is often about how work is organized

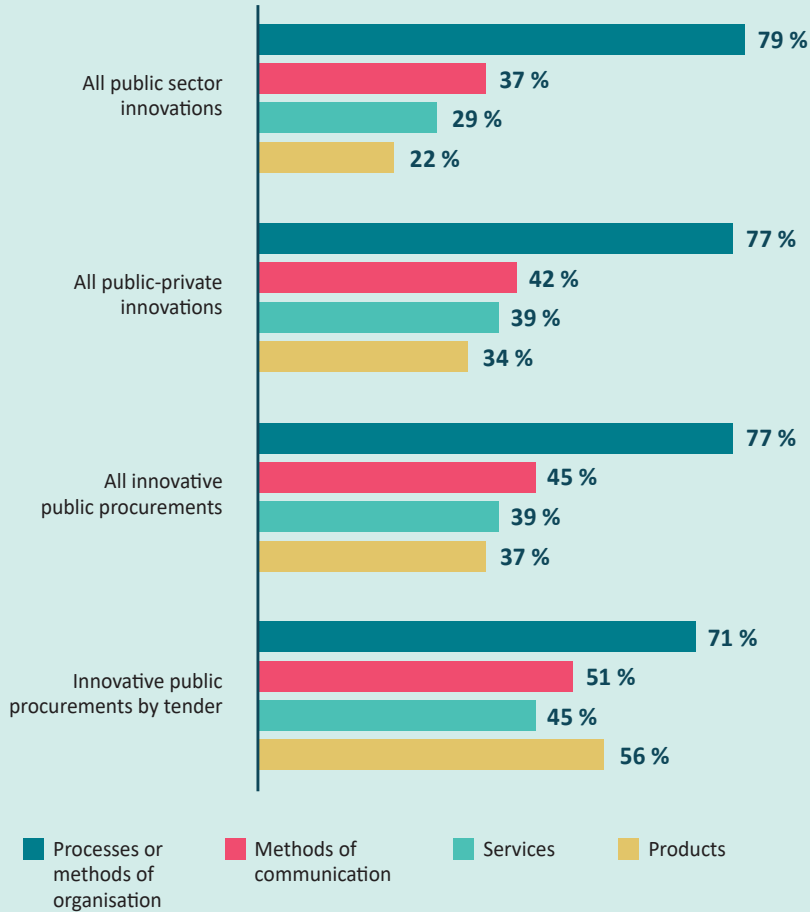


Figure 3: The figure shows which types of innovation are included in the individual innovations for all public innovations, public-private innovations, innovative public procurement and innovative public procurement through tendering. Note that the four groups are not mutually exclusive. An innovation can consist of multiple types of innovation and therefore the percentages for each group add up to more than 100%. Data is weighted to represent the public sector as a whole. All public innovations, n=1,352, public-private innovations, n=247, innovative public procurement, n=174, innovative public procurement in tenders, n=36.

### Public innovation creates quality in the delivery of services

It is crucial for public innovation that the innovations are implemented and have created value. If no value has been created, it is by definition not innovation.

The value of an innovation can be expressed in several different ways, and each innovation has typically created multiple forms of value at once. Increased quality is the value that public innovation has resulted in most often. Seven out of ten (69%) public innovations have resulted in increased quality in the workplace.

Around half (53%) of public innovations have resulted in increased employee satisfaction. This is about both the physical and psychological working environment, and about employees feeling that tasks and work methods are meaningful. At a time when many industries are facing labor shortages, it is not an insignificant value that employees are satisfied with their work and thus motivated to stay in their jobs.

Public innovations also create increased efficiency. This means, for example, that the workplace has achieved the same results with fewer resources or released resources for other tasks. 37 percent of public innovations create increased efficiency.

Finally, public innovation creates two forms of democratic value. These are political goals, which by their very nature can vary from organization to organization. An example could be innovations related to green transition. Three out of ten (28 percent) of public innovations fulfill political goals. The second democratic value is citizen involvement, which is about citizens gaining greater insight into or influence on the solution of tasks. This applies to a quarter (26%) of public innovations.



Figure 4: The figure shows the types of value created by the workplace's most recent innovation. Percentages in the figure add up to more than 100% because workplaces were given the option to select multiple response options. Data is weighted to represent the public sector as a whole. n=1,352.

The value picture for public-private innovations, innovative public procurement and innovative public procurement in tenders is very similar to the shares for public innovation in general. Therefore, figure 4 only shows the general picture.

It is only when it comes to how often efficiency is created that there is a systematic and significant difference between the four groups of innovation. Public-private innovation creates efficiency more often compared to all innovations that are not in collaboration with private companies. The group of innovative public procurement through tendering stands out in particular. 58 percent of innovative public procurement that has included a tender process has created efficiency. In comparison, the share for public innovation in general is 37 percent.

The reason for the correlation may be that a procurement involving a tender represents a significant expense - otherwise there is no obligation to carry out a tender. In such cases, the procurement is likely to be driven by a positive business case. In other words, you often wouldn't go ahead with the procurement if it wasn't related to efficiency gains.

Furthermore, eight out of ten of the innovations that involve tendering are technological. That is, they are technological solutions in themselves or an innovation where technology plays an important role. Technological innovations are generally characterized by the fact that one of the values they often create, is efficiency. The link between tendering and efficiency may therefore also be due to the fact that technological innovations are often linked to efficiency - and that the acquisition of new technology requires a tender.

” *Public-private innovation is more likely to create efficiency compared to all innovations that are not in collaboration with private companies.*

## THREE PIECES OF ADVICE - AND ONE WISH

Louise Brink Thomsen is a special consultant in value-based and innovative procurement in Group Purchasing, Center for Finance in the Capital Region of Denmark. For several years, she has worked with public-private innovation and innovative procurement in the healthcare sector. She is a member of the Partnership for Innovation-enhancing Health Procurement under the Danish Ministry of Industry, Business and Financial Affairs, the European Innovation Council Forum Working Group on Innovation Procurement under the European Commission, the Forum for Value-based Procurement in the Health Sector under Danish Regions and the European Procure-4Health project, where European healthcare organizations work together to promote value-based and innovative procurement.

### **1. Use contracts with a purchase option**

Get started with innovative public procurement by entering into innovation contracts that include purchase options on the solution developed in the innovation collaboration with one or more private companies.

### **2. Put your needs out to tender**

Get the cheapest, best and fastest solution by tendering the public organization's needs rather than a desired product or solution. This gives the bidders - the private companies - more flexibility to innovate and develop a solution that meets the need.

### **3. Involve all potential buyers from the start**

Avoid breaking the chain between development, implementation and deployment by creating innovation-driven tenders where the procurement user group represents the entire potential user base. This ensures that the path for implementation and scaling is paved before the innovation project begins.

### **A wish: Top management must act on political ambitions**

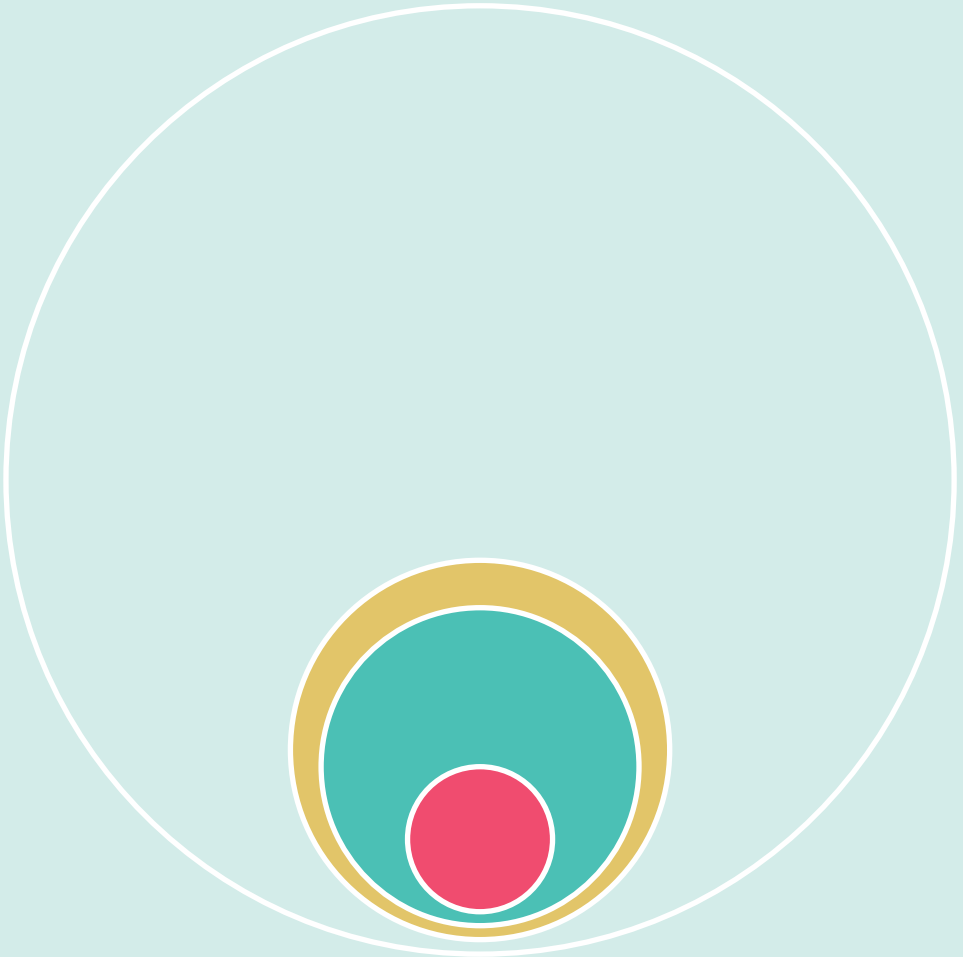
It is a huge change for public procurers to start using the public procurement muscle to solve challenges in the performance of tasks and the modernization of the public sector. So far, it has only become a political ambition. The transformation requires organizational change, and to move forward, top management needs to listen to political ambitions and act on them.

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2

## PUBLIC-PRIVATE INNOVATION



# Innovation in public-private collaboration

With the basic patterns of public innovation in place, we now move one layer further into the circle and focus on public-private innovation. There's no universal definition, but we'll take a broad approach here:

## **Definition of public-private innovation**

The term public-private innovation covers different types of collaborations between public organizations and private companies that have innovation as their purpose.

The purpose of public-private innovation is the development of a new solution or adaptation of an existing solution to address a problem of the public party that available solutions on the market cannot handle satisfactorily. The main purpose of a public-private innovation is therefore innovation.

Source: CO-PI with inspiration from Petersen & Brogaard (2022).

Public-private innovation is just one model among several forms of public-private interaction. Researchers Ole Helby Petersen and Lena Brogaard operate with six models that cover a wide range - from free choice to long-term partnerships to outsourcing, procurement and privatization (Petersen & Brogaard, 2022). While there are overlaps between the models, public-private innovation stands out in several ways. Firstly, because the very purpose is innovation. Secondly, because the production, ownership and financing of the new solution in public-private innovation can be shared between the public and private parties. The public and private parties are in the same boat, and although they have different purposes for sailing, neither knows the exact destination when the boat leaves the shore. Thus, the parties also share a risk.

Public-private innovation is beneficial for both parties and for society as it opens up an innovation space that neither sector could create alone. By working together to understand the problem, develop the solutions together and perhaps even jointly implement them, you can take advantage of each other's differences and achieve effects neither party can realize alone.

The public party gets the opportunity to develop solutions that address specific needs using new approaches or technologies that the public party may not have in their own context on a daily basis. The private company gains deeper insight into the real needs and the opportunity to develop and test in a real context with actual users. This can provide valuable feedback that the company would otherwise not have access to.

This creates an opportunity to create solutions that are thoroughly tested by users - e.g. citizens and employees - and effective in the public sector's organizational and cultural context. When implementation is successful, it creates competitive and qualified solutions that can be reused by other public organizations and create growth for the company.



In the Innovation Barometer, we ask which actors the respondents have collaborated with on the latest innovation. Collaboration on public innovation is widespread, as 69 percent have collaborated with one or more actors outside the workplace.

The Innovation Barometer shows that 16 percent of all public innovations are public-private innovations. This corresponds to the innovations that involve collaboration with private companies. In practice, the group of innovations created in public-private collaboration in the Innovation Barometer is slightly broader than in the general definition of public-private innovation, as the Innovation Barometer asks about collaboration in a broad sense. For example, there is also collaboration with private companies on innovations that are largely a copy of other people’s solutions, and the collaboration can also be about exploring a problem or implementing a solution.

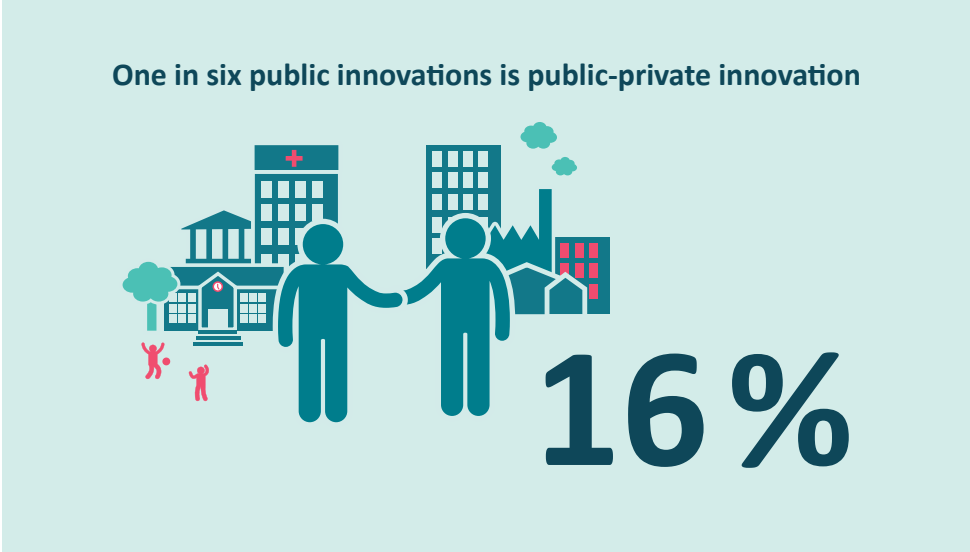


Figure 5: The figure illustrates how many public innovations are public-private innovations. Public-private innovation here means that the public workplace’s most recent innovation was a collaboration with a private company. Data is weighted to represent the public sector as a whole. n=1,352.

For it to make sense to collaborate with private companies, the innovation must be of a nature where private companies can contribute something different or more than the public party can. For example, a private company may have different technical or subject-specific competencies than the public party, or they may be able to invest more resources in developing a solution.

A good public-private partnership also requires that both parties have the skills and capacity for the collaboration. Researchers point out that both innovation skills, good subject-specific skills and experience with public-private innovation are important for achieving good results (Petersen & Brogaard, 2022).

Therefore, it is not a goal in itself that more public innovations should take place in collaboration with private companies. It is more important that collaboration takes place in cases where it is relevant to the task at hand - and that the collaboration is of a nature that benefits both parties.

**Public-private innovation is about several parts of the process**

In public-private innovation, i.e. innovation that involves collaboration with a private company, the collaboration takes place in different phases of the process. Innovation processes can be illustrated in several ways. In the simplest version, there are three phases in an innovation process: exploring and understanding the problem, developing or adapting a solution and finally implementing the solution.

The three phases are not necessarily linear. On the contrary, it is characteristic of an innovation process that you move back and forth between the phases along the way. For example, the process of developing a solution may indicate that there are parts of the problem that have not been sufficiently explored. Or the implementation work may show that there is a need for further adjustments to the solution, for example, if the solution faces new challenges when it is rolled out to a wider circle of users.

The Innovation Barometer shows that public-private collaboration on innovation takes place through all three phases. In fact, there is often collaboration in more than one phase.

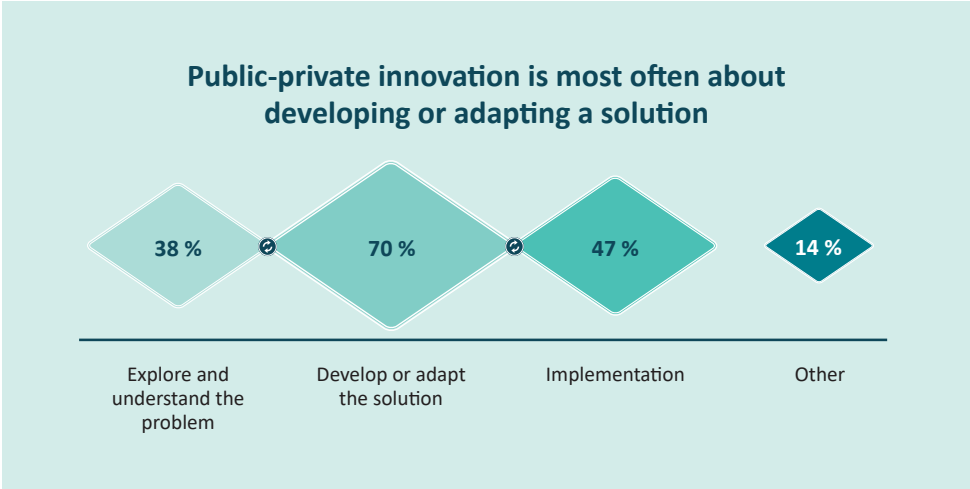


Figure 6: The figure shows the phases of collaboration with private companies on public innovation. The question was only asked to those workplaces that have collaborated with private companies on the most recent innovation. The percentages in the figure add up to more than 100% because the workplaces were able to select multiple answer options. The figure does not show the 2% who answered "Don't know" to the question. Data is weighted to represent the public sector as a whole. n=247.

**1. Exploration and problem understanding**

It's important to have a clear picture of the problem - or need - that a new or adapted solution must address. The problem or identified need should be accompanied by some initial

suggestions for (pre)goals and preliminary success criteria for the solution. Understanding the problem requires professional insight, e.g. in the form of workflow descriptions and clarification of the technical, financial and legal framework conditions.

While the definition of public-private innovation states that the collaboration between the public and private sector should be about developing or adapting a solution, the picture of collaboration is broader in the Innovation Barometer. Already in the first phase, four out of ten (38 percent) have collaborated to explore and understand the problem. An important point to note here is not to focus too early on a (specific) solution. This runs the risk of overlooking nuances and complexity, and the solution will not realize the benefits and meet the needs that are intended. Involving the market can help you understand the problem, but it's important not to partner with a specific company as this will limit the solution space.

## **2. Developing or adapting new solutions**

Seven out of ten public-private innovations specifically collaborate on developing or adapting a solution. Often, there will be solutions on the market that are obvious starting points, but may need to be adapted to meet the needs of the specific context. In this case, it is relevant to involve the suppliers of the type of solution in question early on to understand the extent of the need for adaptation.

Public innovation is generally defined by the fact that the innovation must be new to the public workplace that adopts it. However, the workplace does not have to have developed it from scratch. In fact, three out of four (74 percent) public innovations are a form of reuse of other people's solutions - either by being a direct copy or, as is most often the case, inspired by other people's solutions but adapted for the workplace.

The overall patterns of public innovation reuse apply regardless of whether it is public innovation in general, public-private innovation or innovative public procurement with or without tendering. It's rare to start from scratch, but it's also rare that a solution developed elsewhere completely fits the need and can be copied directly. When reusing innovation - even if it is done in public-private collaboration or involves procurement - it is therefore a good idea to be aware that adaptation is often a necessity.

## **3. Implementation**

Of course, a new or customized solution needs to be deployed to create value. Often, the supplier can play a significant role in the implementation of the solution, and the Innovation Barometer shows that close to half (47%) have actually collaborated on implementing the solution. Implementation work should be considered from the earliest stages, ensuring that the stakeholders who will contribute to the implementation and use the solution are involved every step of the way. There should also be a final follow-up on goals and success criteria in the form of an evaluation or similar.

In practice, an innovation process can take many forms, and this is reflected in the 14% of respondents who indicate that there is (also) collaboration on other things than the three phases. This includes, among other things, private companies contributing to training and skills development, facilitation or evaluation and follow-up.

## CASE

# Local engagement started the development of a multi-table



**ByLink develops and manufactures simple products that help the health-care sector. The new, innovative solutions are developed in collaboration with healthcare professionals. Among the products is the Roomie multi-table, which contributes to better working postures for staff and makes everyday life easier for citizens in need of care. The table was developed together with the staff at two care centers, and ByLink received advance commitments from four care centers to purchase a certain number of tables at an agreed price.**



The North Jutland company ByLink came into contact with staff and management at two care centers in Aalborg Municipality. They needed a durable, functional and aesthetic alternative to the traditional bedside tables available on the market. The new multi-table was designed to be a functional work table for the staff and an assistive device for the resident at the same time. The design had to be flexible, optimize table space and support good hygiene.



After the initial dialogue with the care centers, ByLink agreed to develop a table that fit the exact need. The managers of the two care centers gave full support for staff to be an active part of the development team in the creation of the table.

No actual contract was signed, but ByLink and the care center managers made a verbal agreement on a price for the table and delivery of a certain number when the table was fully developed and produced. The care center managers also made contact with two other care centers in the municipality who were interested in purchasing the table. Together, the four care centers would purchase 60-70 tables, giving ByLink a satisfactory business case.

The development process leading up to the first prototype of the Roomie table took nine months, and as the care staff were closely involved in the process, it was easy to implement the multi-table at the care centers afterwards. Based on the agreement with the four care centers, ByLink was confident that there would be an even bigger market for the table. At the same time, the company received "help" to expand the market for the solution, as the care center managers in Aalborg spread the story of the table - and its development - in their networks.

In the first year with Roomie on the market, ByLink sold 250 tables in total, and the market has been growing ever since. Today, ByLink has signed agreements with resellers who sell Roomie to care centers, hospitals, etc. both in Denmark and abroad.



**If you want to know more, contact:**

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### How is contact with private companies initiated?

Public-private innovation can be initiated in different ways. Therefore, the Innovation Barometer asks how contact with companies is initiated.

Ideally, the process of procuring a new solution should include dialogue with more than one supplier. Partly to get input from multiple perspectives and partly to ensure that the best possible supplier is chosen. In a quarter (24 percent) of public-private collaborations, the partner was selected after a dialogue with several companies.

If the value of the solution is of a certain size, it is a requirement that a tender is carried out prior to procurement, and for nine percent of public-private innovations, the contact was made through a tender.

A tendering process can be organized to create a good and structured framework for dialogue and development of the solution. This can be done, for example, through the use of the innovation partnership procurement procedure or one of the other flexible forms of procurement, which we will discuss in more detail in chapter 4. The dialogue with suppliers can be used to sharpen goal formulations and success criteria.

A total of 29 percent of the public-private innovations have had several companies in play or have been open to it in the sense that there has been a dialogue with several companies and/or have been put out to tender. The answer options are not mutually exclusive, as it is obvious, for example to have a dialogue with several companies in a tendering process.

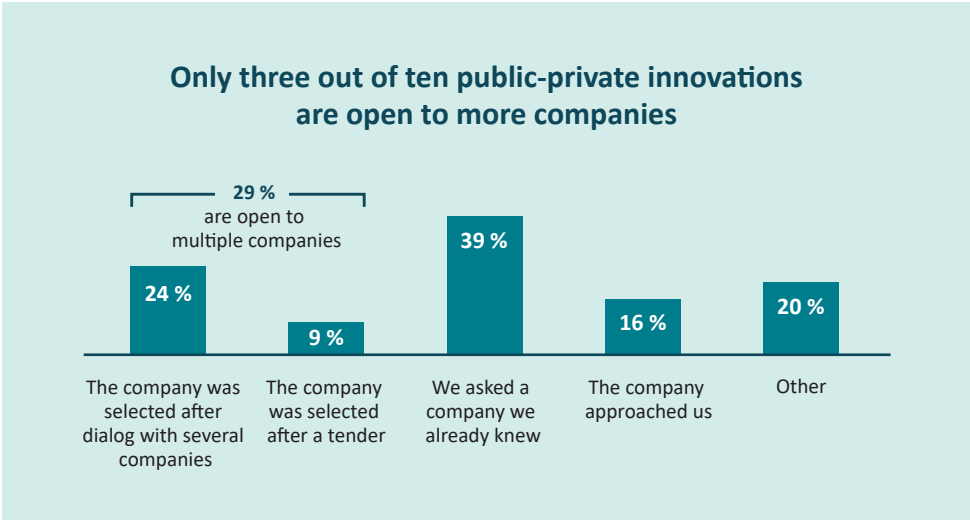


Figure 7: The figure shows how contact with private companies was established. The question was only asked to those workplaces that have collaborated with private companies on the most recent innovation. The percentages in the figure add up to more than 100% because the workplaces were able to select multiple answer options. The figure does not show the 8% who answered "Don't know" to the question. Data is weighted to represent the public sector as a whole. n=247.

Conversely, a total of seven out of ten (71 percent) of public-private innovations do not appear to have been open to more companies.

In four out of ten (39 percent) public-private innovations, the private company was found by the public workplace itself asking a company they already knew, and in 16 percent of the cases, it was the private company that approached the public party. When the collaboration has started with an inquiry from a company, it could be a collaboration where the company has a prototype that they want to test or an existing solution that needs to be adapted.

There are 20 percent who indicate that the contact has arisen in some other way. This covers, for example, cases where the contact is built on top of an existing collaboration or where the contact has arisen through networks without being able to identify whether the public or private party initiated the contact. Finally, eight percent answer that they do not know how the contact was initiated.

The fact that so many public organizations initiate a collaboration with a company without having had a dialogue with other companies may be due to several factors. For example, it may be that the actors in the public organization believe they have a good knowledge of other relevant companies. It may also be that the project (and procurement) is relatively small, and therefore the resources associated with a more thorough market search are not considered to be commensurate with the expected benefits.

For the public sector workplace, it may be easier to work with a company they already know. For example, an existing supplier may already be familiar with the solutions and conditions in the workplace, making it easier for them to be involved in new solutions. It can also be safer for the public workplace to work with someone they know, as they can trust that the private party will do the job well and keep their promises. Innovation is inherently a process with many unknowns, so it may seem safe and right to start the process with someone with whom you have previous experience of working with.

However, by not keeping the door open to more companies, the public sector can also miss out on opportunities. There may be other players in the market that can offer better solutions or the same solutions at a lower price. For private companies, it can be difficult to get a foot in the door with new customers if public sector workplaces largely choose to work with those they already know. And the public organization may cut itself off from getting input on needs and solutions from a new angle.

## Market dialogue

Dialogue with one or more companies prior to making a purchase or formalizing a collaboration is often referred to as market dialogue. Market dialogue is a broad term that can cover dialogues of varying nature and scope.

Dialogue with the market is a good idea for several reasons:

1. It can help to qualify and nuance the understanding of the need
2. It gives more companies the opportunity to bid on the task solution and can open up more possible solutions
3. Early market dialogue can act as an early warning that something new is coming. It gives companies the opportunity to consider and prepare new solutions, and can also create fertile ground for new collaborations across industries
4. The competition element can help promote the best and most value-adding solution.

Market dialogue naturally requires time and effort - both on the part of the public sector and the companies. The scope and format of the market dialogue must be determined according to the value it is expected to create, and can range from written consultations of ideas and drafts to series of workshops and large meetings.

It's also important to consider how narrowly or broadly to invite to a market dialogue. Generally, it is recommended to invite openly, meaning that everyone is allowed to participate. It will often be necessary - and certainly a good idea - to put effort into inviting and publicizing a market dialogue. This is especially true if you are looking for completely new solutions or approaches.

Although there are certain limits to the dialogue, especially when you are in the process of a tender, there is generally wide access to dialogue with the market. Dialogue can be considered both early and late in the process of selecting the company you want to work with. Just keep in mind that there must be a certain openness about the dialogue so that there are no one or a few companies that - by virtue of the dialogue - get a special advantage in a possible later tender. This should never be a reason for not holding a market dialogue. Read more about the possibilities for market dialogue in relation to tenders. in the Danish Competition and Consumer Authority's guidelines (KFST 2018).

If a procurement procedure is carried out, the dialogue possibilities from the publication of tender documents to the conclusion of the contract are laid down in the procurement rules. In general, there is much greater access to dialogue prior to the publication of tender documents than after.

## Non-competitive public-private innovation

Before we move another step into the circle and focus on the public-private innovations that are innovative public procurement, let's briefly turn our attention to the special collaborations known as tender-free public-private innovations. As the name suggests, these are public-private innovation collaborations that are exempt from competitive tendering. This is possible because these are mutually beneficial development collaborations where the public and private parties have a common goal of developing new, innovative solutions and are not part of a traditional buyer/supplier relationship. We will discuss tendering and mandatory tendering in more detail in chapter 4.



Non-competitive public-private innovation is a way to collaborate to develop new solutions that do not exist in the market. This can be an advantage when the uncertainties about the nature of the solution are so great that it is difficult to carry out a tender (Gate 21 2021).

However, as we will discuss later, there are also opportunities for more flexible collaborations within the Public Procurement Act, for example in the form of innovation partnerships. A significant advantage of a public-private innovation without a tender is that it can be a direct extension of a good dialogue and be based on a common understanding of what type of solution is needed. Therefore, you can quickly clarify whether there are perspectives for a more formalized collaboration.

In connection with public-private innovation without tendering, you should be aware that a subsequent purchase of the developed solution may be subject to tendering. If the company wants to deliver the developed solution, you should also be aware that the collaboration process must not have given the private company any special knowledge that could disqualify them from tendering.

When we ask in the Innovation Barometer whether tenders have been carried out in connection with public-private innovations, public-private innovations, four percent answer that it is a public-private innovation without tendering. So, while this form of collaboration exists and is used in Danish public sector workplaces, it does not take up much space in the overall landscape of public-private innovations. Compared to all public innovations, less than one percent of public-private innovation is tender-free public-private innovation.

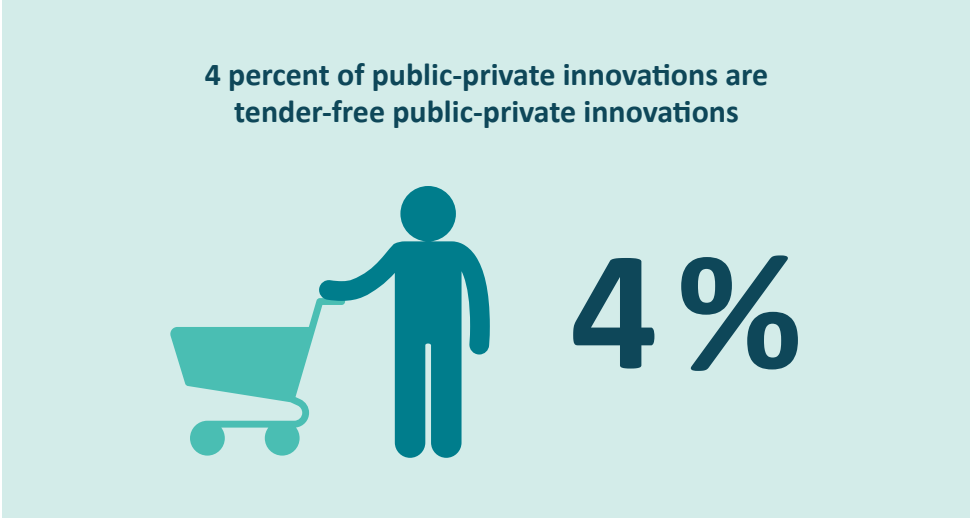


Figure 8: The figure illustrates how many public-private innovations are non-competitive development cooperation contracts (non-competitive public-private innovation). n=247.

The private party can receive financial payment in the case of non-tendered public-private innovation, but it can also be a collaboration that is completely non-financial in nature. In the next chapter, we turn our attention to those public-private innovations, tender-free or not, where financial payment is involved.

## THREE PIECES OF ADVICE - AND ONE WISH

Rikke Thorlund Haahr is Chief Consultant at the Center for Public-Private Innovation, where she works with innovative public procurement. For more than 20 years, she has worked with tenders, public procurement and public-private partnerships, especially in the municipal sector, and has experience as a contracting authority, tenderer and advisor.

### **1. Think of your public-private innovation as a procurement**

It's difficult to implement a solution from a private company if you haven't purchased the solution. All too often, OPI collaborations stall along the way because no thought has been given to the tendering process, budget or implementation. This means that good solutions take far too long to come to fruition, and private companies have to wait many years for a good idea to become a good business.

### **2. Engage with multiple companies**

The known supplier may not always be the right supplier. It is worth exploring the possibilities of other suppliers, and the dialogue can provide valuable input on both needs and solution spaces. Good competition can also provide a suitable challenge to established solutions in the market. Early dialogue can help shift a market and inspire companies to explore new paths and establish new collaborations.

### **3. Let demand drive what you collaborate on**

Innovation takes time and effort, so it's important to clarify what value you're trying to achieve through an innovation collaboration with a private company. The demand must reflect a need for a solution that creates real value - literally. If a public organization is not willing to allocate funds and resources for the implementation and procurement of a solution, the company also risks spending resources on development without resulting in sales and ultimate value creation.

### **A wish: That we gain more experience with innovation partnerships**

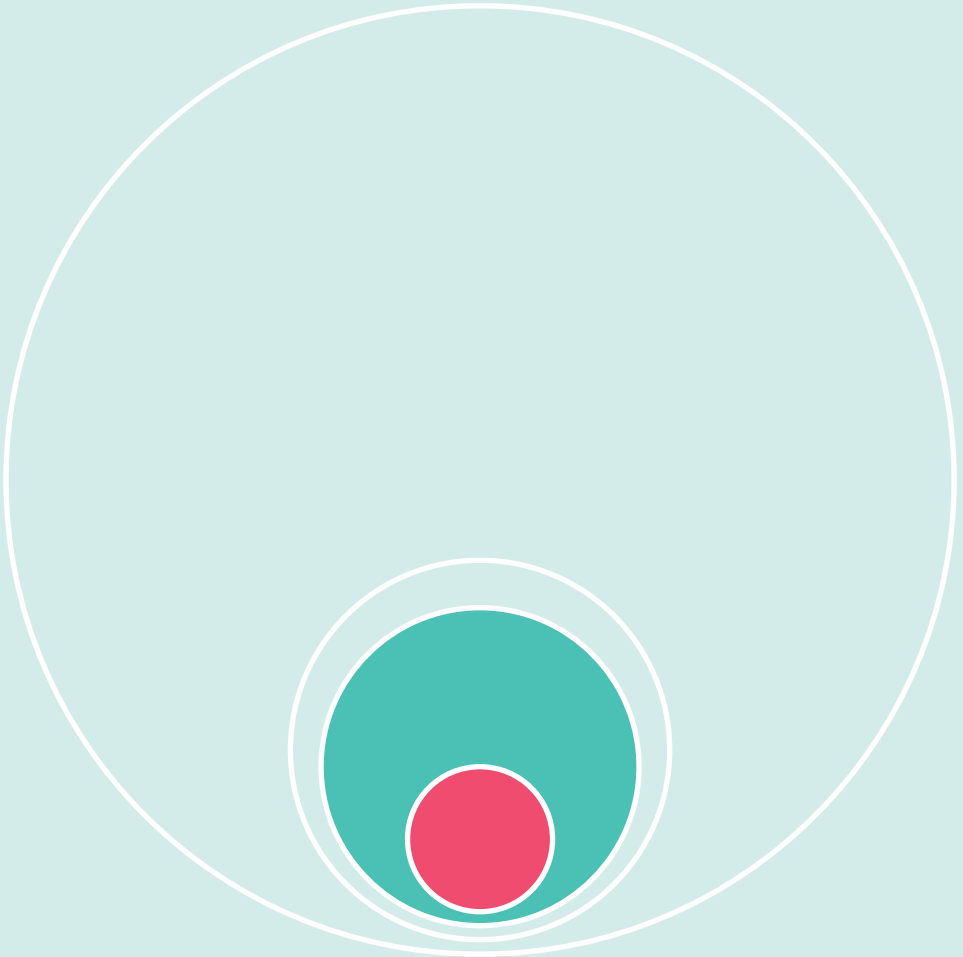
The innovation partnership tendering process is by no means the only way to combine innovation and procurement. But choosing this approach ensures that the collaboration is well thought out from the start. I think that the innovation partnership is avoided because it requires the involvement of many actors and because you have to think carefully. But this is exactly what is needed if we are to succeed in combining the needs, resources and innovative power of both sectors. That's why we need to gain more experience with this way of working together.

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3

## INNOVATIVE PUBLIC PROCUREMENT



# What is innovative public procurement?

When innovation work in a public organization involves collaboration with a private company, it's a good idea to think of it as a (potential) procurement. Procurement is often a prerequisite for implementation, and thinking about procurement from the start ensures that expectations are aligned between the players and that you are aware of the rules and framework conditions that apply to procurement from the start.

The public sector purchases more than DKK 400 billion a year (KFST 2023). The purchases range from food for children in daycare centers, to social services and large building and construction projects. Purchases are made in very different ways. In the most standardized product areas such as diapers, food, cleaning, pharmaceuticals and certain IT services, purchases are made on framework agreements, often concluded for a larger group of public organizations. In these types of areas, the contracts are often put out to tender again and again, without necessarily making major changes to the process and content. In other areas, such as construction projects and more specialized or one-off procurements, contracts are entered into for the delivery of a specific product or service. Examples include the construction or renovation of a school, the acquisition of special equipment for a hospital ward or a new IT system for sea surveillance.

Not all procurement is - or should be - innovative. The purpose of procurement is always to meet a need - whether it's to produce food for children in daycare centers or to monitor wind and weather conditions in Danish waters. Sometimes it's obvious that the need calls for a new solution that either needs to be developed or adapted. For example, if it is a completely new task or if the technology has enabled a completely new approach to solving the task. Other times, new requirements or wishes related to the need mean that it may be relevant to look towards new solutions or adapt existing ones. The desire for more climate-friendly solutions everywhere in our society is a good example of such a new desire, which suggests looking at existing procurement with new eyes. Similarly, the shortage of employees in all industries calls for even greater development and utilization of technology that can facilitate tasks in the care and healthcare sector, among others.

Whether it's more green solutions or technology that can support welfare, there are many specific needs and challenges that have no quick or easy solution. Innovation is needed, and a well-planned collaboration between the public organization and one or more private companies can open up a space for innovation that neither party could create alone. Often the collaboration will - or should - include a procurement; an innovative public procurement (IPP).

Innovative public procurement is an **interaction** between public and private actors that leads to the **procurement** and implementation of **something new** that creates **value** or solves a problem for the public actor.

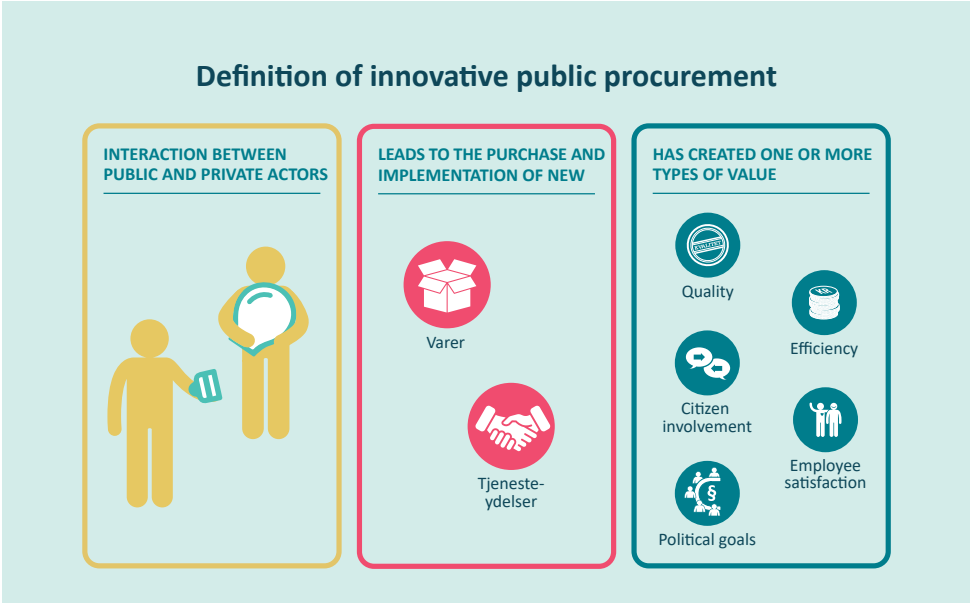


Figure 9: The figure illustrates the definition of innovative public procurement.

The definition is based on the definition of innovation, see chapter 1. It does not necessarily have to be a completely new solution, but simply a solution that is new to the public workplace in question. And it is part of the definition that the solution is implemented and creates value or solves a problem.

An IPP involves an interaction between the public organization and the private company. The interaction can be about customization, development or implementation of the solution. The point is that both parties add something to the solution, and the best conditions for a value-creating interaction will often require the involvement of the private company early on in the process. The fact that it is referred to as a procurement means that there is an exchange, i.e. the delivery of a service (a solution) in exchange for a consideration (typically payment).

Of course, public organizations also work with innovation and development without necessarily involving procurement. However, as soon as an innovation effort or development process includes a dialogue with a private company, it should be thought of as a (potential) procurement, simply because a procurement is a prerequisite for a solution to be implemented. This means thinking through the entire process early on, focusing on the value the solution will create and deciding on the framework for how the solution will be procured and implemented.

There is good reason to think of public-private innovations as potential procurements, as the Innovation Barometer shows that in the vast majority of cases, the private partner in public-private innovation receives financial payment in connection with the collaboration, and that it is therefore a procurement. Overall, seven out of ten (71%) public-private innovation collaborations are innovative public procurement as they involve tendering or other financial payment.

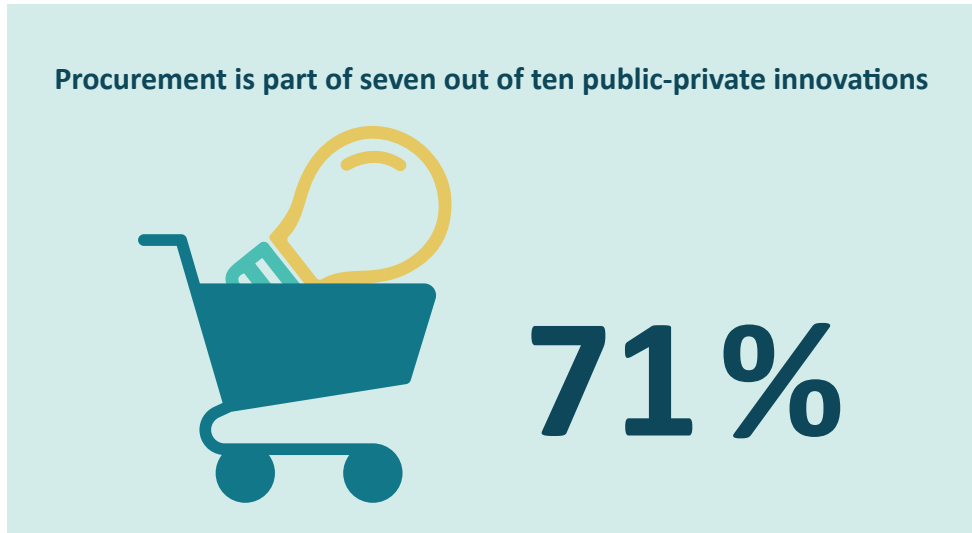


Figure 10: The figure illustrates how many public-private innovations are innovative public procurement. An innovation is classified as an innovative public procurement if the workplace has answered yes to the fact that a tender has been carried out or planned, or that the private partner has received or is expected to receive financial payment in connection with the collaboration. The questions on which the illustration is based were only asked to workplaces that have collaborated with private companies on the most recent innovation. Data is weighted to represent the public sector as a whole. n=247.

In terms of all innovations - not just those in public-private partnerships - a total of 11 percent are innovative public procurement.

In some situations, a procurement may seem far removed from the situation the actors are in. This is often the case when the collaboration is not driven by a demand from the public organization. It may be that a company has approached a public workplace - for example, a hospital department - with a desire to get feedback on some immediate ideas or prototypes for a solution. It may also be that it will ultimately not be the public organization in question that will be the relevant customer for the solution in question at some point in the future, but rather that the solution will be used by, for example, another supplier - i.e. that the supplier of the solution is a subcontractor.

In 21 percent of the public-private innovations, the private partner has not received financial payment. In another eight percent of cases, it is not known whether payment has been received, with the respondent answering "don't know".

Collaboration without payment can also mean that you have entered into an innovation process where it was uncertain from the start whether you would arrive at a solution that was relevant for the public party to purchase. It can also be a sign that the process has taken a turn along the way that has prevented or made procurement and payment unnecessary. The absence of payment may therefore be in line with both what was expected and what was agreed. But the fact that in more than one in five collaborations, payment does not take place, emphasizing the importance of aligning expectations about what the perspectives of collaboration are and who bears the risk that the collaboration does not result in a purchase.

### **Process model of an innovative procurement**

In chapter 2, we presented a simple model of an innovation process. In this section, we take a closer look at how the process can be organized when it is (potentially) an innovative procurement.

A procurement process can be organized in many different ways, and this is also true when the process has innovation as its purpose. The figure on the next page illustrates the main components that experience has shown to be part of a (successful) innovative procurement process.

The process has two key characteristics that are particularly important to highlight:

- The focus on exploring the need before deciding on the type of solution.
- The interaction with the market - both in the early needs exploration and in the later development process.

**Planning:** Innovative procurement almost always requires collaboration across the public organization. New solutions often impact existing organizational frameworks and dividing lines, including control over budgets and employee resources. Especially important is collaboration across procurement functions and the employees and managers directly involved in innovation.

All processes involving innovation carry risks because the solution is not known in advance and resources must be invested in exploring the problem or need. From the beginning, it's not necessarily clear how and when those investments can be recouped. If the innovation is of a certain size, it is therefore also important to ensure the necessary support and attention from management, including administrative and political top management.

**Needs exploration:** If a procurement is to be innovative, i.e. contribute to something new that creates value, it should be based on the value to be created or the problem to be solved. Therefore, you should take the time to do a thorough initial needs exploration and refrain from deciding on a certain type of solution early on. Otherwise, it will be difficult to maintain focus on what value is to be created - and whether that value could be created to a greater extent by another solution. Here it is important to involve relevant users who experience the problem - whether within the public organization or outside - such as citizens, businesses, associations or civil society.

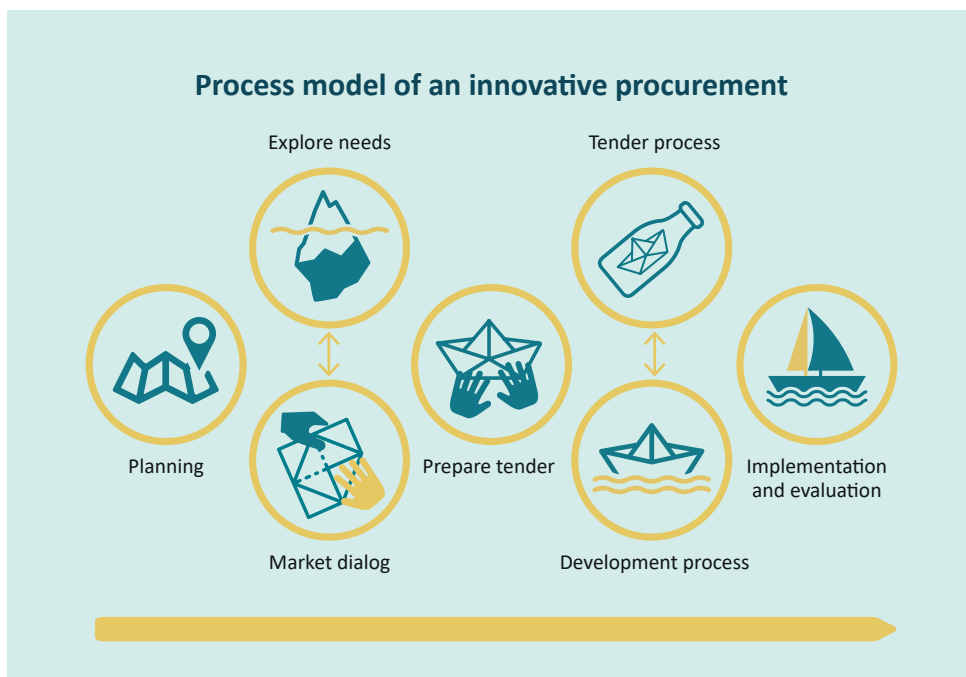


Figure 11: The figure shows a process model of an innovative procurement from planning to implementation and evaluation.

**Market dialogue:** By involving companies early in the process, the public organization can both qualify the understanding of needs and get a sense of how companies understand the need. The latter is crucial in order to organize the right process for development or adaptation and procurement. The procurement rules set a framework for how the dialogue can take place, but in general, especially early on in the process, there is wide access to dialogue.

The model shows that there can be several rounds, alternating between market dialogue and exploring the need. The market dialogue will often contribute to nuancing and qualifying the need and will also give the public organization a picture of how far the market has come in understanding the need. This will also gradually make it clearer which process is the right one to get closer to solving the need; whether it is adapting existing solutions, combinations, better implementation or developing completely new solutions.

**Preparing for tenders:** The tendering process must be organized to ensure the right framework for innovation. The strategic considerations and fundamental decisions about the type of procurement etc. must be formulated in a procurement strategy. It is not always the case that the procurement requires an actual tender. Perhaps the value of the purchase is lower than the thresholds or perhaps the purchase can be made within the framework of an existing agreement. If so, this needs to be clarified.

If the innovation requires close collaboration between the public organization and the company on new development, the innovation process should be part of either the tender or the task being tendered. Again, the close interaction between innovators and the procure-



ment department is necessary to lay the foundation for a tender that is well thought out across the organization.

If it's more of an adaptation of an existing solution, the market may be able to offer the adapted solution in a future contract if the need is communicated clearly and early enough. Even in the case of a customized solution, it must be implemented and time must be set aside for testing and feedback.

**Tender:** The need must be translated into actual requirements and wishes that can be communicated via a tender document. When it comes to collaborative development, it is relevant to have requirements and wishes for both the finished solution and the collaboration itself. The actual tendering process will follow a pre-determined process, which can consist of rounds of dialogue and negotiation to varying degrees, depending on what is most appropriate (see chapter 4). The process may consist of parallel processes with several companies.

If it is not an actual tender but, for example, an request for quotation or the use of an existing agreement, there are fewer requirements for the process. But in any case, it is a good idea to think carefully about how to translate the need into requirements and wishes and how to enter into an agreement with the company that reflects this.

**Development process:** The development process can be part of the tender process itself or part of the task that the winning company is tasked with solving. If there is uncertainty about whether it is even possible to develop a solution that meets the need, milestones with exit options can be included along the way. It often makes sense to conduct tests and trials with the involvement of end users along the way. In this way, there is an interaction between development activities and purchasing decisions. The model illustrates how procurement and development processes can be closely linked.

” *The tendering process must be designed to ensure the right conditions for innovation.*

**Implementation and evaluation:** Implementation is a prerequisite for a new solution to create value. It often makes sense for the company to be involved or responsible for the implementation. In any case, consideration should be given to addressing any implementation challenges, for example, if some challenges or errors only become apparent when the solution is deployed at full scale.

In this phase, an evaluation of the process and solution should also be carried out, both to ensure that the experience can create value for the future and to ensure that other public organizations can check and test the solution and assess if and how it can be reused.

## CASE

# Circadian lights improve sleep and quality of life for the elderly



**The right type and amount of light at specific times of the day can improve older people's sleep patterns, circadian rhythms, energy levels and counteract depression. In an innovation partnership with Lyhne Design and Belid Lighting, the City of Copenhagen and the City of Aarhus have developed, tested and validated new circadian lights for use in nursing homes. Several municipalities have taken advantage of a purchasing option in the innovation partnership and entered into framework agreements with the suppliers and are in the process of implementing the lamps.**



Many people are familiar with feeling tired and depressed in winter due to less daylight. For elderly people in nursing homes, the problem is even greater. The elderly are often physically and mentally weaker, their eyes are less able to absorb light and they spend a lot of time indoors. This affects energy levels and mood, contributing to sleep disturbances and disrupted circadian rhythms. Research has shown that the right type of light at certain times of the day can influence older people's sleep patterns, strengthen circadian rhythms, counteract depression and improve energy levels.



For a number of years, the City of Copenhagen and the City of Aarhus have been investigating circadian lighting as a tool to promote the well-being of the elderly in nursing homes. In 2018, the two municipalities joined forces to identify the need for future circadian lighting in nursing homes, and the following year, existing solutions were tested in a joint project. The conclusion was that none of the solutions on the market met all the requirements for circadian lighting in a nursing home.

In 2020, the two municipalities launched a joint project to develop and procure a new solution through an innovation partnership. Tenders were received from four suppliers, and the tender was won by a consortium with Swedish Belid Lighting and Danish Lyhne Design. The two companies have worked closely with users to develop new circadian rhythm lamps, which have been tested in nursing homes in Aarhus and Copenhagen. The tests showed positive changes in the elderly's perceived sleep quality, circadian rhythm, perceived well-being and the staff's working environment.

The innovation partnership has developed a product portfolio called the Mate Collection, which consists of four design series of circadian lights: table lamps, floor lamps, pendants and ceiling lights. The lamps are designed to be flexible and portable, with a homely design that allows them to be placed in residents' homes and common areas, as well as in service areas and offices.

The innovation partnership had a total procurement option of up to DKK 160 million over a period of up to four years. In addition to Copenhagen and Aarhus, eight other municipalities in the procurement option. By the beginning of November 2023, a total of eight municipalities had signed a framework agreement with the supplier (Copenhagen, Aarhus, Ballerup, Vejle, Hørsholm, Aalborg, Odense and Halsnæs), and the new lighting solutions are being implemented in several nursing homes.



**If you want to know more, contact:**

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## THREE PIECES OF ADVICE - AND ONE WISH

Lyhne Design is a small design company in North Zealand that develops different types of innovative lighting fixtures. In 2021-2023, together with the Swedish company Belid Lighting, the company entered into an innovation partnership with the City of Aarhus and the City of Copenhagen. The task was to develop a solution with biological light that can help elderly citizens in nursing homes to improve their circadian rhythm, counteract depression and boost their energy levels. The result was the Mate Collection, a flexible range of lamps that can meet different needs for biological light.

### 1. Consider an innovation collaboration

Smaller companies developing innovative products should consider entering into an innovation collaboration with public parties. Developing new products is a large investment new products is a big investment and involves a lot of risk. In an innovation partnership you have a potential customer who helps to carry the development. This also has great value, the opportunity to develop and target a product together with relevant users through testing and getting feedback from professionals.

### 2. Remember to align expectations

When joining a consortium, it's important to align expectations and define roles, responsibilities and deliverables in a collaboration agreement and project plan. You need to determine whether the consortium has the necessary competencies and can meet the requirements described in the tender. Good dialogue and information sharing is essential.

### 3. Be clear in the tender documents

Public organizations should describe the expectations for deliverables and documentation very clearly in the tender documents so that bidders can assess what competencies are required to complete the task and how many resources to budget for. A transparent pricing model and reasonable "carrot" can also make it more interesting to bid on a project.

### Et ønske: Make processes more agile

Innovation in public-private partnerships can easily get bogged down in legalities, documentation requirements and time constraints. We found that the start-up of our bioluminescent innovation partnership was a cumbersome legal process that almost stopped the project before it got off the ground. Therefore, my wish is to make the processes more agile to ensure that there is room to innovate and not take the breath away from the companies.

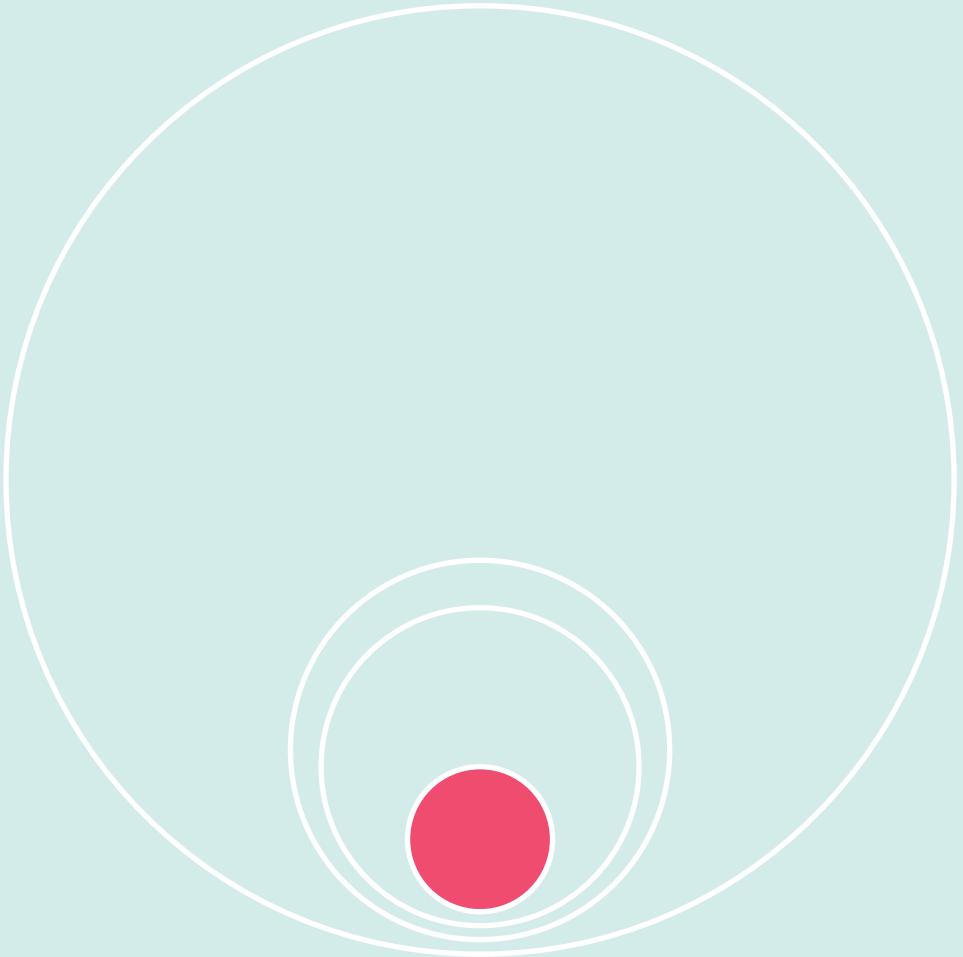
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# INNOVATIVE PUBLIC PROCUREMENT BY TENDER



# What is tendering?

If a purchase is of a certain size, a tender must be carried out prior to the purchase. In short, a tender means defining a set of terms and conditions for how the task of delivering the desired solution will be awarded and what requirements the solution must meet. The public contracting authority then awards the contract to the private supplier who submits the most advantageous offer.

Procurement rules and processes provide a wide range of tools and "levers" that can help promote good collaboration. Tendering can seem cumbersome and process-heavy, but if you take advantage of the range of tools in the toolbox, it can be seen as an aid to due diligence and early clarification of needs and expectations.

Among the "tools" that can support innovation and new thinking in collaboration are the following:

- **The competition:** New thinking, innovation and collaboration skills can be some of the elements that are emphasized when awarding a contract. Price is almost always an element in a tender, but there is ample opportunity to emphasize all sorts of other things that are crucial to good collaboration and a good solution. For example, this can be included in the award criteria that are formulated. In addition, the tender process itself can be organized with several rounds where requirements and offers are adapted based on dialogue activities. This is possible if you choose to use one of the flexible procurement methods.
- **The contract:** The tendered task can be a development process, as is often the case in the IT sector. In addition, the contract can contain so-called innovation clauses, which can ensure continuous development during the contract period, e.g. ongoing implementation or dissemination of new solutions. This can be formulated as minimum requirements, i.e. something that must be done, or supported by bonus or penalty clauses.

A purchase can always be put out to tender, but when it exceeds a certain size (threshold), it must be put out to tender. Thresholds vary between sectors and also depend on the type of task (KFST n.d.).

Tendering can be carried out in many ways. The five procurement procedures under the Procurement Directive are listed in Table 1.

The most common and simplest form of procurement is simply called "Public tenders". There is no limit on the number of bidders who can bid for the contract, and there is no opportunity for dialogue about requirements and needs or about possible solutions during the tendering process. According to the Danish Competition and Consumer Authority, in 2020, "Public tenders" accounted for almost two-thirds of all tenders under the Public Procurement Directive (KFST 2022).

"Limited tendering" also does not allow for dialogue during the process, but the tendering process is divided into two phases. First, companies apply for permission to submit a tender and then selected companies are invited to submit a tender.

# Opportunities for dialogue and development in procurement procedures

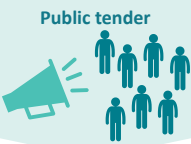




Tendering procedure	Number of bidders	Access to dialogue about requirements and needs (can the tender documents be adjusted?)	Access to dialogue about solution (can the offer be adjusted?)	Development and adaptation of solution
 <p>Public tender</p>	Unlimited	No	No	Only for functional requirements* and/or award criteria other than lowest price
 <p>Limited tender</p>	Limited, but at least 5	No	No	Only for functional requirements* and/or award criteria other than lowest price
 <p>Tendering with negotiation</p>	3-5	Only to a very limited extent	Yes	Yes, but primarily customization of solution within defined need**
 <p>Competitive dialog</p>	3-5	Yes, but not of basic elements	Yes	Yes, but mainly in the form of customizations**
 <p>Innovation partnership</p>	Limited, but at least 3	Yes	Yes	Yes, partnership contract regulates both development and possibly procurement

Table 1: The table shows the possibilities for dialogue and development for the procurement procedures in the General Procurement Directive.

\* Functional requirements: Requirements that address the function, i.e. describe what tasks are to be solved, but refrain from setting requirements for how it is to be done.

\*\* This is a dialogue about the solution within a clearly defined framework and within a predefined schedule. Therefore, there will be no time and opportunity to design and test completely new solutions.

When it comes to tenders that include innovation, there will often be a need for dialogue and development in connection with or as part of the tender. There are a number of types of procurement procedures that allow for dialogue along the way, and they are collectively referred to as "Flexible tender procedures". With the 2016 Public Procurement Act, access to the flexible procurement procedures "Competitive tendering with negotiation" and "Competitive dialogue" was significantly expanded, and a new flexible procurement procedure,

“Innovation partnership”, was introduced. Since then, flexible tendering has become more widespread and in 2020 accounted for 22 percent of tenders (KFST 2022).

However, it is predominantly “Competitive tendering with negotiation” that is used in flexible procurement. In the years 2017-2018, around 95 percent of flexible tenders were “Competitive tenders with negotiation”, while “Competitive dialogue” and “Innovation partnerships” together accounted for just five percent (KFST 2021). There is no indication that this distribution has changed significantly since then.

The tender procedure “Innovation partnerships” is specifically targeted at collaborations on the development of new solutions, where a tender procedure initiates a collaboration with one (or more) companies, which includes both the development or adaptation of a solution and the actual purchase of the solution.

Innovation can also be established using one of the other procurement procedures, e.g. by combining early supplier involvement or market dialogue with one of the other flexible forms of procurement.

A procurement process can be demanding and should be carried out by - or with the help of - someone who has been through it before. The requirements of equal treatment and transparency mean that the process must be well prepared prior to the publication of material etc. But time spent on good preparation rarely comes back badly, and in most cases, the preparation time will be a good investment in the future collaboration with the private company. Much of the preparation will also contribute to a sharpened understanding of your own needs and a clear alignment of expectations between the parties.

It is also worth considering how public contracting authorities can give private companies good conditions for preparing tenders. For example, the Confederation of Danish Industry (DI) recommends that public contracting authorities do not hold tenders over the summer holidays, as it can be difficult for companies to prepare tenders during holiday periods. On the contrary, DI recommends setting longer deadlines than the minimum deadlines set out in the Public Procurement Act and notifying tenders in advance so that companies can plan accordingly (DI 2023).

Keep an eye on current legislation and new guidelines from the Danish Competition and Consumer Agency at [kfst.dk/udbud/](https://kfst.dk/udbud/)





## How often is innovative public procurement put out to tender?

Roughly speaking, the ratio of IPPs with and without tendering means that for every innovative public procurement carried out after tendering, there are four innovative public procurements carried out without tendering. To be precise, 21 percent of innovative public procurement is carried out after tendering.

The 21 percent tendering in innovative public procurement covers the fact that in 18 percent of the innovative public procurements, a tender has been carried out, while it is underway or planned in another three percent of the innovative public procurements.

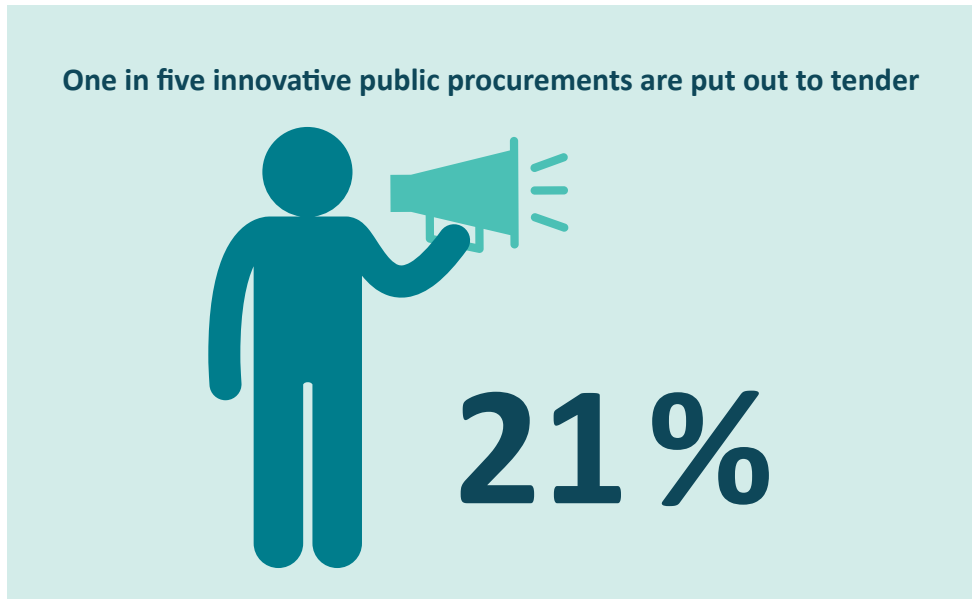


Figure 12: The figure illustrates how many innovative public procurements are put out to tender. This means that the workplace has answered yes to the fact that tenders have been carried out or are planned. The question on which the illustration is based was only asked to those workplaces that have collaborated with private companies on the latest innovation, while the percentage in the figure is only based on the innovations that are innovative public procurement. Data is weighted to represent the public sector as a whole. n=174.

This means that not many innovative procurements are put out to tender, and overall, the group of innovative public procurements put out to tender represents only two percent of all public innovations.

The vast majority, 79%, of innovative public procurement takes place without the procurement being put out to tender. This may be because the procurement is covered by a framework agreement or because the value of the procurement is below the thresholds for when tendering is required.

It is far from always necessary to carry out a tender prior to a purchase. But in any case, it is important that prior to the procurement, you have considered how needs can be translated into requirements and wishes for a company, as well as how to ensure the mutual alignment of expectations for effort and results.

## **Financing is important for innovative procurement in tenders**

Naturally, when innovations involve procurement, funding must be found to pay the supplier. This applies to a greater extent in cases where innovative public procurement is put out to tender. Partly because the procurement itself in these cases is often above the threshold value, and partly because there are transaction costs associated with the tendering process for both the client and the tenderer. For the contracting authority, the transaction costs are on average 1.4 percent of the total contract sum, but the costs are proportionately higher for smaller purchases and when flexible forms of procurement are used, where the procurement process is more extensive (KFST 2021).

In addition, there are all the other resources needed for an innovation process and a good public-private innovation collaboration. This includes, among other things, the working hours of the frontline employees who will be involved in identifying needs, testing and implementing the solution to be developed or adapted and procured.

Looking at all public sector innovations as a whole, public sector workplaces report that 26 percent of innovations did not require any special funding. This means that in the vast majority of cases, there are costs associated with the innovation. The most frequent source of funding is the workplace's own budget, which fully or partially funds more than half (54%) of public innovations overall.

Funding outside the workplace's own budget can consist of both central funds within the workplace organization and/or external funding. Central funding can be, for example, pools set aside in a region or municipality from which the underlying institutions can apply for funding for their own local innovation efforts. These funds will often be targeted for politically determined purposes and reserved for innovation in connection with the tasks that the underlying institutions perform. External funding, on the other hand, covers all types of private foundations, public funding schemes, partners' funds and foreign funds. Here, nursing homes, hospitals and other public workplaces will in most cases be in greater competition with multiple players for funds that are not targeted for procurement.

The Innovation Barometer shows that innovative procurement through tendering is twice as likely (36 percent) to obtain funding from central pools compared to public innovations in general (18 percent). This is as expected, considering the greater need for funding for innovative procurement through tendering. OPI (22 percent) and innovative procurement (26 percent) fall between these extremes.

Somewhat surprisingly, this pattern is completely absent when looking at external funding. Regardless of the type of innovation, the share of externally funded innovations is at a low, almost uniform level of 12-15 percent. This may be because we're not seeing a reflection of funding needs, but rather funding opportunities.

It can be extremely difficult to apply for external funding for innovative public procurements that are put out to tender. In the line of large private Danish foundations that focus on solving societal problems and also support public purposes, none have programs that support innovative public procurement, let alone tendering. Funding mechanisms are typically set up in such a way that the funder wants to know all project participants in advance and/or only wants to support certain types of companies, such as small and medium-sized enterprises. This is difficult to reconcile with procurement law.

Waiting to apply for funding until the tender process is completed and the private partner is known with certainty can result in delays in the innovation process and uncertainty about the financial framework of the project. It can also weaken competition. It is less attractive to submit a binding bid for an assignment that the company knows may lapse if the contracting authority does not later obtain external funding.

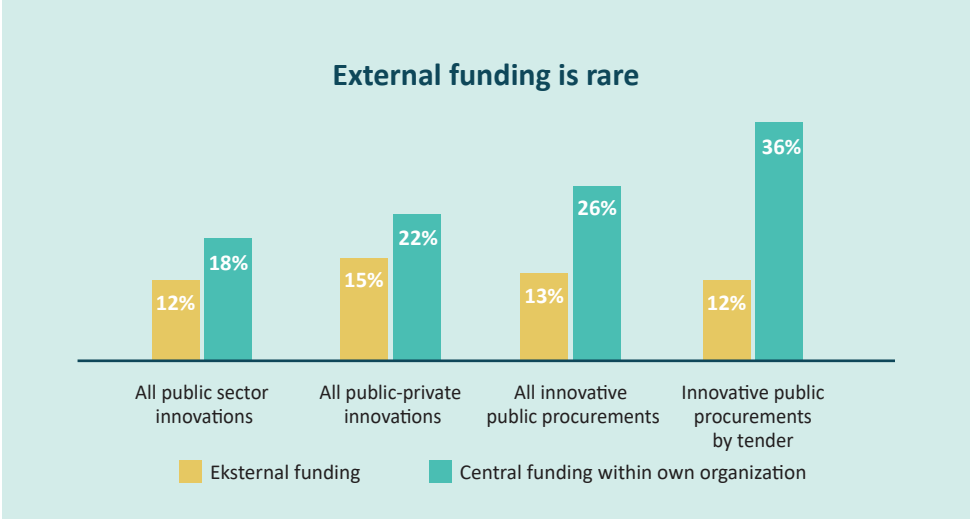


Figure 13: The figure shows how many public innovations are externally or centrally funded for all public innovations, public-private innovations, innovative public procurement and innovative public procurement through tendering. Note that the four groups are not mutually exclusive. External funding here refers to private foundations, public funding schemes, collaborators’ funds or foreign funds. Data is weighted to represent the public sector as a whole. All public innovations, n=1,352, public-private innovations, n=247, innovative public procurement, n=174, innovative public procurement in tenders, n=36.

It cannot be ruled out that the absence of targeted funding mechanisms may be a significant part of the explanation for the rarity of innovative procurement through tendering. However, it is not impossible. When it can be done within the workplace’s own budget, it may be in situations where the new solutions being procured are expected to quickly create efficiencies in task performance and save financial resources that can fund the procurement.

However, with innovation on a larger scale, it will rarely be possible to realize benefits within the same budget year. Many expenses are incurred early in the innovation process, the development process can be extensive and the benefits are only realized at the end of the implementation. In addition, there is always a risk in innovation processes that you don’t end up with a solution that creates the intended value. Realizing the full societal potential of innovative procurement on a larger scale will therefore not be possible using the operating budgets of individual public workplaces alone.

## CASE

# Novafos requires emission-free machinery



**The municipal water and wastewater company Novafos, which is owned by nine municipalities, will in an upcoming tender for a framework agreement require the use of emission-free mini excavators for work on the pipe network. The requirement will help reduce the CO<sub>2</sub> impact of Novafos' activities. During the first year of the framework agreement, Novafos will use the first year of the framework agreement to prepare a plan for the transition to emission-free mini excavators in collaboration with the selected contractor. Novafos is a partner in CO-PI's scaling process "Together for emission-free work machines".**



The number of emission-free machines on Danish building and construction projects is still limited, but is expected to increase in the coming years as public clients make demands on suppliers. Emission-free machines - such as electric mini-excavators - can help reduce CO<sub>2</sub> emissions from projects and also contribute to an improved working environment and reduce noise and air pollution. Novafos has so far not required emission-free machines in connection with tenders for construction projects.



In an upcoming tender for a framework agreement, Novafos will require the supplier to use electric mini-excavators. Novafos is the water and wastewater company for nine municipalities in the Capital Region: Allerød, Ballerup, Egedal, Frederikssund, Furesø, Gentofte, Gladsaxe, Hørsholm and Rudersdal.

The requirement for emission-free machines will be set out in an eight-year framework agreement, which is expected to be put out to tender around the turn of the year 2023/24. Novafos annually renovates approximately 20 km of water pipes in the company's supply area and also has approximately 3,500 operational tasks.

Mini excavators are used for the tasks of renovating and repairing the pipe network, e.g. when digging to replace existing water pipes or performing operational tasks. In the framework agreement, the first year will have the status of a base year, where work is done to determine the current CO<sub>2</sub> impact. In this year, there will be no requirement to use electric mini-excavators for the tasks.

The base year will also be used for a dialogue where Novafos and the selected contractor through joint workshops, etc. investigate the possibilities of converting to electrically powered machines and then make a plan for the conversion. After the first year of the contract, it will be a requirement from Novafos that all mini-excavators used by the contractor in work on the framework agreement are electrically powered machines.



The model with a base year and a gradual transition to zero emission mini excavators has been chosen as a more pragmatic approach, taking into account the contractor's investment needs and any challenges in delivering the sufficient number of electric mini excavators at once. The eight-year contract period also takes into account the typical depreciation period for an electric mini excavator.

The reason for the requirement for emission-free machines is Novafos' focus on sustainability. Among other things, the company works to reduce the climate and environmental impact and resource consumption from its activities. Novafos expects that it will be met with a demand from its owners to reduce the CO<sub>2</sub> impact per meter of renovated water pipe over time. The emission-free machines will contribute to achieving this goal.



**If you want to know more, contact:**

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## Glossary of key terms

**Restricted tendering** is a procurement procedure where only a limited number of pre-qualified companies have the opportunity to submit a tender.

**EU tendering** is used for those tenders that are covered by and carried out according to the rules of the EU procurement directives.

**Innovation partnerships** are a flexible procurement procedure that allows for the conclusion of one or more long-term partnership contracts for development and subsequent procurement, without the need to conduct a separate procurement procedure for the purchase.

**Innovative public procurement (IPP)** is an interaction between public and private actors that leads to the procurement and implementation of something new that creates value or solves a problem for the public actor.

**Competitive dialogue** is a flexible form of procurement that allows the contracting authority and the tenderer to engage in a dialogue about the solution of a task in order to determine how the contracting authority's needs can best be met.

**Market dialogue** is a broad term for dialogue between the public contracting authority and private suppliers before and during a procurement process. The purpose of market dialogue is for the contracting entity to gain insight into the market's current products and methods and to organize the procurement process accordingly. Market dialogue must not lead to a competitive advantage for a tenderer.

**Public innovation** or **public sector innovation** is doing something new in the public sector that creates value. An innovation must be new to the workplace itself, but may be developed by others.

**Public-private innovation** covers different types of collaborations between public organizations and private companies with the purpose of innovation.

**Public-private partnerships** is an umbrella term for different types of long-term collaborations between public and private actors. In some cases, public-private partnerships are formalized cooperation agreements that span several decades, but the term is also used for less formal collaborations.

**Public-private collaboration** is a broad term used to describe a variety of different types of collaboration or interaction between public and private actors.

**Public procurement** is a broad term for purchasing goods and services from private suppliers.

**Public tenders** are a form of procurement where public contracting authorities invite companies to bid for a task on the basis of written tender documents. The term is used both for the specific tendering procedure "Public tender", which is the most basic and widely used tendering procedure, and for public tendering as a whole, regardless of the tendering procedure.

**Evaluation criteria** are used to assess the tenders received and determine the best offer. Evaluation criteria can be price, cost or best price-quality ratio.

**Thresholds** are the monetary limits that determine whether a public contract should be put out to tender. The threshold varies depending on what is being purchased and who is buying it. For the years 2024-2025, the thresholds for most services and goods are DKK 1,064,177 for state authorities and DKK 1,644,638 for municipalities, regions and public law bodies (KFST n.d.).

**Negotiated tendering** is the most commonly used of the flexible tendering procedures. It allows the contracting authority to conduct negotiations or discussions with the tenderers in order to improve the content of the tenders received so that the procurement is better adapted to the contracting authority's specific needs.

**The Public Procurement Directive** is the EU's general directive on public procurement, which is implemented in Denmark via the Danish Public Procurement Act. Most public procurement is carried out according to the Public Procurement Directive, but utilities, defense and security and contracts with EU institutions are covered by other directives and regulations.

**Non-competitive public-private innovation** is a form of public-private collaboration that is exempt from public tendering. This is possible in the case of development collaborations where the public and private parties have a common goal of developing new, innovative solutions and are not part of a traditional buyer/supplier relationship. The developed solution must be put out to tender if the public party later wants to buy it.

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## Here's how we did it

The Innovation Barometer is the world's first official statistics on innovation in the public sector. The statistics are compiled by the Center for Public-Private Innovation in collaboration with Statistics Denmark. This is the fourth time the survey has been conducted. The previous rounds were published in 2015, 2017 and 2020.

This fourth round is based on responses from 1,611 public workplaces and the results are weighted to be representative of the public sector. The responses were collected between April 21 and June 7, 2023 via a web-based questionnaire sent by email to the workplace's senior manager. The responses relate to any innovation activity in the past two years, i.e. spring 2021 to spring 2023. Responding to the questionnaire has been voluntary and the response rate is 36%. You can read more about the survey methodology at [co-pi.dk/innovationsbarometer](https://co-pi.dk/innovationsbarometer) and at Statistics Denmark.

The publication focuses on four groups of innovations; Innovative public procurement in tenders, innovative public procurement, public-private innovations and all public innovations. The four groups are nested within each other so that innovative public procurement in tenders is also part of the group all innovative public procurement, which in turn is part of the group all public-private innovations, which finally is also part of the group all public innovations. This also means that the sum of innovations in the four groups is higher than the total number of all public innovations, as many innovations are included in several of the groups. The four nested groups are shown on the left side of Table 2.

The right side of the table shows what the groups would look like if they were mutually exclusive. Here, the four groups add up exactly to the total number of public innovations, as each innovation is only included in one group. This is the type of breakdown that you would typically show in publications like this, as it makes the differences between the four groups easy to observe and interpret.

Nevertheless, we have chosen to present the data as nested groups, as the full groups are inherently more interesting. Thus, we believe that knowledge about, for example, the total group of public-private innovations is more relevant to present than the "residual group" of public-private innovations without procurement.

The statistical analysis is based on the mutually exclusive groups. The correlations and differences highlighted in the text are significant at a significance level of 0.05 unless otherwise stated.

**Nested groups****Mutually exclusive groups**

	Number (unweighted)	Percent (weighted)		Number (unweighted)	Percent (weighted)
Innovative public procurement by tender	36	2,3 %	Innovative public procurement by tender	36	2,3 %
All innovative public procurement	174	11,3 %	Innovative public procurement without tendering	138	9,0 %
All public-private innovations	247	15,9 %	Public-private innovations without procurement	73	4,6 %
All public innovations	1.352	100,0 %	Public innovations without private collaboration	1.105	84,1 %
<b>Total</b>	<b>1.809</b>	<b>129,5 %</b>	<b>Total</b>	<b>1.352</b>	<b>100,0 %</b>

Table 2: The table shows nested and mutually exclusive groups.



# INNOVATION BAROMETER

**The Innovation Barometer** is the world's first official statistics on innovation in the public sector. The statistics are compiled by the Center for Public-Private Innovation in collaboration with Statistics Denmark and are representative of the entire public sector in Denmark.

Four rounds of data have been collected; in 2015, in 2017, in 2020 and most recently in spring 2023. You can read more about the surveys at [co-pi.dk/innovationsbarometer](http://co-pi.dk/innovationsbarometer) and at Statistics Denmark.

Public innovation is defined in the survey as a new or significantly changed way of improving workplace activities and results. Inspired by the Danish survey, public sector innovation barometers have been developed in all the Nordic countries, and more countries are on the way.

You can read more about the international surveys at [innovationbarometer.org](http://innovationbarometer.org).