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INNOVATIVE BESCHAFFUNG

Public procurement of innovation

Guide, 2nd edition 2017

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Contents

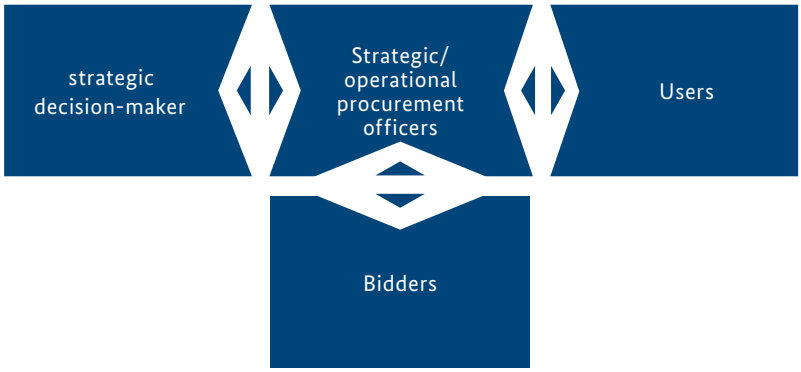
This guide is intended to help ensure that the public sector increasingly demands innovative products and provision of services and that public procurement of innovation serve in that process.


1

Public procurement of innovation

Who are the players in public procurement?

Various groups of individuals are involved in public procurement. The structure of this guide is geared towards the various informational needs of players involved in public procurement. These basically may be divided into four categories.



Img. 1: Influence on the procurement – Cooperation of stakeholders

Strategic decision-makers and public agencies

These are political decision-makers or heads of administrations, such as mayors, chief executives, district administrators, ministers and state secretaries, heads of units in federal and state ministries, senior individuals in downstream authorities, such as procurement offices, as well as managing directors of public sector companies or municipal supply bodies. They often set purchasing policy guidelines, design procurement procedures, and decide on strategy and requirements of services to be purchased. Thus, they can serve as proactive promoters of innovation in their respective institutions should they expect innovative solutions from their procurement officers and be aware of potential risks involved, for example.

Strategic/operational procurement officers

Procurement officers implement purchasing of products and services. Depending on their structure and mandate, they are to ensure an efficient execution of the strategic objectives and also take strategic criteria (such as innovation), besides cost efficiency, into account.

All stakeholders in procurement play an important function and can contribute to an innovation-friendly climate within procurement through their behaviour. An intensive exchange between strategic decision-makers, procurers, bidders and users. Only in this way can procurement be designed in a legally admissible framework that it is as innovative, economical and user-friendly as possible.

Users

These are employees of public sector and companies. These are the recipients of services purchased and used in the execution of their duties. For example, they can stimulate the purchase of innovation through exchanges with procurement officers and decision-makers.

Bidders

These offer their innovative services to public procurement officers. For example, IT service bidders, architects and vehicle manufacturers. They wish to sell their products and services to public administrations and companies and are able to offer their innovative products and services in competition with their competitors.

Significance of innovation

The promotion of innovation in public procurement is an important element in the economic affairs and energy policy of the Federal Republic of Germany. Goals such as conservation of natural resources and energy efficiency are tightly linked to innovation.

These targets may be achieved not only through a supply-oriented policy such as the promotion of research and innovation projects, but also from the demand side through public procurement of innovative products, system solutions and services. The high level of innovation and technology potential of public procurement oriented towards innovation is reflected in the following consideration:

The annual volume of public procurement in Germany is estimated at approximately Euro 350 bn. (2016)[1]. If it were possible to use only one per cent of this procurement volume for innovative products and services, this would result in an innovation stimulus of more than Euro 3.5 bn. per annum. A comparison of current research and innovation funding in companies in 2015 to the tune of Euro 2.3 bn.[2] illustrates the immense leverage effect of public procurement on innovation activity in the economy.

In this context, innovation is defined in the "Oslo Manual" of the OECD as:

> *"An innovation is the implementation of a new or significantly improved product (or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations."*[3]

Innovation is thus possible in many areas. This occurs usually in an initial implementation of products and techniques (marketable innovation) that have already been used in another sector or application. An innovation may also be associated with the implementation of a new technology or a new business model that is yet to appear on the market (non-marketable innovation).

Leverage of public procurement on innovative power in the German economy

If it were possible to use only one percentage point of the procurement volume for the purposes of innovative products and provision of services, this would deliver an innovation stimulus of more than Euro

3.5 bn. per annum.

1 UniBw/KOINNO (2016), Public procurement of innovation (Projection of public procurement volumes on the basis of budgetary data and public sector statistics).

2 BMBF (2017), Training and research in figures 2017, Berlin.

3 An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation, or external relations" – OECD/Eurostat (2005), OSLO Manual: Guidelines for collecting and interpreting innovation data, S. 46, Paris.

Added value of public procurement of innovation

Demand for innovation by states occurs against the background of increasing digitalisation and where tight budgets are of supreme importance. Procurement of innovation often results in significant added value for the public sector and companies. A distinction to be made here is:

Procurement of innovations	Innovative procurement
Demand for innovative products and provision of services as a result of procurement procedure	Innovative and efficient structure of procurement processes and the organisation of procurement itself

Cost saving and service enhancement are results from a public procurement of innovation

Public procurement's primary target is to procure products and services economically. In doing so, the procurement of innovative products and services can enhance cost-efficiency by considering life-cycle costs over the long-term and boost performance, thereby producing cost savings. This becomes a question of ascertaining the best cost-benefit ratio. This may occur due to lower energy and water consumption costs, use of auxiliary and operating materials, or the disposal of products. In addition to actual economic demand, innovative products and the provision of services often bestow concrete improvements in administrative procedures and the concomitant enhancement of service quality and user-friendliness.

Finally, the state's demand for new products and services stimulates innovative activity in the economy and bolsters the rapid introduction of newer technologies in the market. Small and medium-sized enterprises (SMEs) profit especially, as they require reference projects for their innovative technologies to woo potential (private) clients and positively influence their purchasing decisions.

Federal and European policy measures and initiatives

Germany and KOINNO

Public procurement has been considered a significant instrument for innovation stimulus in the federal government's high-tech strategy for many years. In a cornerstone of their innovation policy of introducing more ideas into the market, the BMWi will announce measures to enhance innovative procurement from April 2017 in order to achieve the demanding targets of the BMWi to increase innovation activity in the economy and society.

Innovation is also emphasised as an aspect in public procurement law. Thus further qualitative procurement criteria are stipulated alongside the efficiency principle, thereby, for example, bringing in innovative aspects together with social and environmental considerations. In addition, the innovation partnership has been introduced as a new public procurement instrument in April 2016.
In order to implement these strategic guidelines, the Competence Centre for Innovative Procurement (KOINNO) was established on 1 March 2013 so as to bring procurement officials at a federal, state and municipal level together into a network. In addition, examples of good practice will be sought and publicised.

The Competence Centre for Innovative Procurement (KOINNO) advises and networks officials involved in procurement on a municipal and federal level.

The entire KOINNO portfolio is in Chapter IV and appears on the www.koinno-bmwi.de/en website.

European Union and KOINNO liaison

The 2006 innovation strategy of the EU Commission defined state procurement as a significant driver of innovation. "Horizon 2020", the new framework programme for research and innovation, brought with it funds from the European research budget to enhance such research and development projects that lead to public procurement of new products and services. Thus new instruments such as pre-commercial procurement or the innovation partnership should be implemented. It is not only research institutions and industry, but also public procurement officers who are summoned to generate research and development projects. Information on calls for bids by the European Commission within the framework of "Horizon 2020" is available at the central support facility for public procurement: EU contact point, www.koinno-bmwi.de/en/eu-funding.

2

Legal framework for public procurement of innovation

Legal framework requirements as an opportunity for a more public procurement of innovation

Legal framework requirements provide a host of opportunities and facilities to enhance the further promotion of innovative aspects.

The current legal framework for the procurement of public administration tenders above EU threshold values is established in the Treaty on the Functioning of the European Union (hereinafter TFEU) and Directive 2014/24/EU of the European Parliament and of the Council (hereinafter Dir/2014/24/EU). They have been transposed into German law through Part 4 of the German Act against Restraints of Competition (GWB), and particularly the Regulation on the Award of Public Contracts (VgV). These regulations provide a number of opportunities and facilities in the drive for enhancement of innovative aspects in the field of public procurement legislation.

The procurement of new products and services may be more economical than the conventional solution when the medium and long-term utility value and total life-cycle costs are taken into consideration.

Public contracting authorities are obliged to act according to the principles of efficiency and economy in the procurement of supplies, services and works. Of course, this instruction explicitly includes the consideration of innovative criteria. The procurement of new products and services may be more economical than the conventional solution when the medium and long-term utility value and total life-cycle costs are taken into consideration. In many cases, innovative services and products with positive environmental effects, for example through energy savings, are linked.

Instruments for public procurement of innovation

- MEAT approach and calculation of life-cycle costs
- Functional performance specifications
- Admission and assessment of variant solutions
- Negotiated procedure and negotiated award
- Competitive dialogue
- Innovation partnership
- Pre-Commercial Procurement (PCP)
- e-procurement

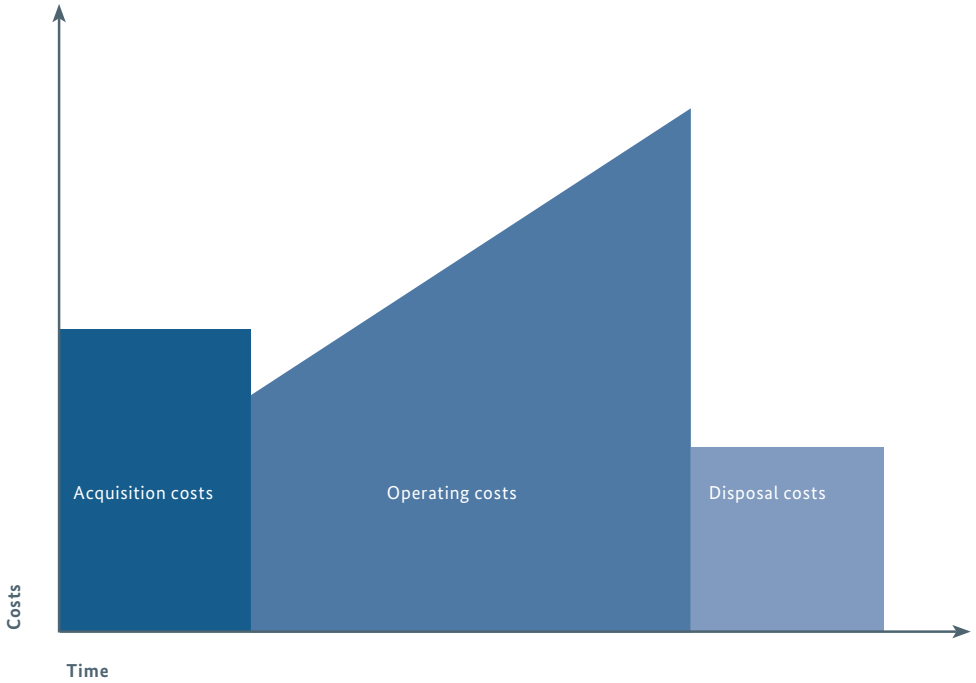
MEAT (Most Economically Advantageous Tender) approach and calculation of life-cycle costs

This approach provides the contracting authority with all relevant qualitative, technical and other criteria in differing weighting when deciding an award. In the event that weighting is not possible, the criteria should be classified on the basis of their decreasing significance. The target must be to identify the bid offering the best cost-benefit ratio. Inter alia, potential criteria are:

- (Product/service provision) quality
- Aesthetic and functional characteristics
- Customer service and technical assistance
- Time of delivery, duration and reaction time
- Cost effectiveness
- Technical performance, degree of innovation
- Environmental, sustainability and socio-economic factors
- Acquisition price
- Operating costs
- Disposal costs

The criteria applied must have a bearing upon the procured item. These must also be defined explicitly in the invitation to tender and remain in conformity with public procurement law (Germany and EU).
Calculation of life-cycle costs comprises all cost components, including those outside the procurement itself. The purchasing procedure is interpreted as a transaction and divided into three phases: All costs before, during and subsequent to an award must be considered (pre-transaction, transaction and post-transaction costs).
Instead of realising the lowest possible acquisition price, a consideration of overall costs ("principle of long-term cost-effectiveness") enters the calculus, justifying a higher acquisition price being tempered by medium-term operating costs. To this end, all (future) cost components should be

The target with the MEAT approach is to determine the best cost-benefit ratio of the bid.



Img. 2: Life-cycle costs

quantitatively determined where possible and, with the help of an interest rate risk assessment, then discounted on the decision date. Thus long-term effects of innovative products/services (lower environmental or operating costs, for example) and risks may be taken into consideration. Suppliers who put innovative products and economies of scale into use can thus gain an advantage over competitors offering a lower acquisition price.

You can find a life-cycle cost calculator at (in German):
www.koinno-bmwi.de/toolbox

Advantages

Factoring in life-cycle costs (LCC) of a product has the enormous advantage that in the decision to buy, there is consideration, not only of the acquisition price, but also follow-on costs such as maintenance, parts wear and energy consumption. Nevertheless, an LCC calculation is only applied in more than 50 per cent of public procurement in Germany. This result is taken from the “Public procurement of innovation" (2016) survey performed by the Bundeswehr University Munich at the behest of the Competence Centre for Innovative Procurement (KOINNO). The reason for this is chiefly the uncertainty of many procurers in making miscalculations and leaving the decision-making process vulnerable. This is problematic, as the LCC approach is required precisely in the procurement of innovation in order to be able to demonstrate the cost-effectiveness of innovative products. The KOINNO-Selection tool offers a remedy for LCC calculations. This assistance in the calculation of life-cycle costs has been developed by Bundeswehr University Munich, the Ministry of Finance in Hesse, and the Competence Centre for Innovative Procurement, and the most current version is always available at www.koinno-bmwi.de/en.

§ Public procurement law at a glance

The new procurement law for the award of public sector contracts above EU threshold values, applicable since 18 April 2016, explicitly provides for the consideration of life-cycle costs. For supplies and services, the procurer, in accordance with § 59 para. 1 of VgV (hereinafter VgV), can specify that the award criterion "costs" be calculated on the basis of the life-cycle cost of the performance. For works, § 16d para. 2 No. 2 General Conditions for the Award of Public Works Contracts (hereinafter VOB/A-EU), arranges, among other things, that the award criteria are allowed if they are related to the subject matter. This is the case if the award criteria do not apply in any respect and at any stage of their life cycle to the subject of the contract, even if such factors do not have an impact on the material properties of the subject of the contract.

In the corresponding life-cycle costing (Art. 68 Dir/2014/24/EU, § 59 of the VgV, and § 16d para. 2 Nos. 5 et seq. of the VOB/A-EU) all the costs accruing over the entire life cycle of works, supplies or service costs are included. This consists of acquisition, utility, maintenance, waste disposal, recycling and collection costs. Costs arising from the externalities associated with the goods, service or works in conjunction can also be relevant. The prerequisite is that their monetary value can be determined and verified, in accordance with objective and non-discriminatory criteria, and for all interested Parties to access the method of calculation (§ 59 III, No. 1 and 2 as well as section 16d II, No. 6).

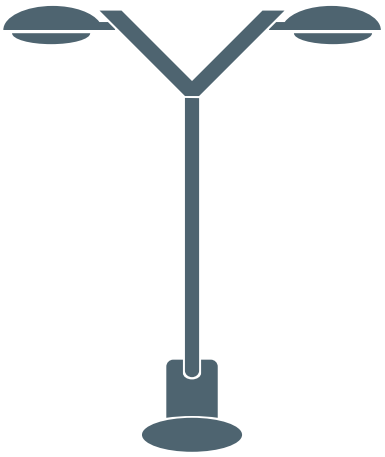
Functional performance specifications

Another instrument with which to consider innovative perspectives is functional performance specifications. It substantiates the item to be procured in relation to the problem to be solved and is at the very heart of the procurement procedure. It is also the point of reference and central basis of the bidder's tender calculation. Therefore § 121 para. 1 of the German Act against Restraints of Competition regulates the implementation of the principle of transparency for all procurements across the board so that the contractual item is described as clearly and exhaustively as possible. As a result, the description for all companies may be understood in the same spirit and the tenders can be compared to one another.

You can find a tutorial video on the functional performance specifications at (in German): www.koinno-bmwi.de/funktionaleleistungsbeschreibung

Comparative example between simple and functional performance specifications:

The simple description of services is	The functional performance specifications are:
"Delivery and installation of X street lights with X bulbs with an output of X watts."	"X streets must be lit over a period of X hours a day at an illuminative strength of X. The minimum life of the lighting elements must be X days,"



Advantages

Functional performance specifications have the advantage that the number of alternative tenders on offer may increase in regard to price and quality and thereby the possibility of a particularly cost-effective and innovative procurement rises simultaneously. It is particularly helpful where the procurer eschews a detailed formulation of a procurement solution and allows the bidder room to expand on the way in which their offer caters to the procurement requirement described. Technical developments and innovative solution options and resulting innovation may also be considered in the award procedure, even without the procurer's specific solution, as long as the rating parameters of the bidders are made transparent.

§ Public procurement law at a glance

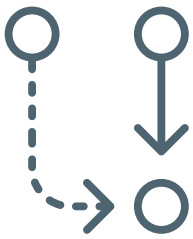
In the case of supplies and services according to § 31 para. 2 No. 1 of the VgV, the characteristics of the subject of the contract in the form of performance or functional requirements, or a description of the problem to be solved, may be defined in a way that they convey a clear picture of the subject of the contract. Works can be described in a general presentation of the building project and in a schedule of services subdivided into partial service (§ 7b para. 1 VOB/A-EU – service description with schedule of services). If it is appropriate works can, by way of derogation, already be presumed with competition planning, so as to determine the best solution technically, economically and aesthetically, as well as the most functional solution to the construction task (§ 7c para. 1 of VOB/A-EU – service description with schedule of services). In the case of a possible functional description of supplies, services or work, there is thus also a concept competition between the bidders, which occurs in addition to pure price competition. Therefore, in addition to the prices, the service side must also be assessed transparently on the basis of criteria that the client specifies and promulgates.

Admission and assessment of variant solutions

A further possibility to give more consideration to innovative performances is offered in the regulations on variant solutions. These include every deviation from the postulated bid (main bid), in technical, commercial or other respects, and thus also amended proposals by the bidder.

Advantages
Admission of variant solutions can open up the contracting authority to innovative solutions at comparatively low expense, which they may not be aware about. Thus conventional services may be demanded within the framework of a main bid, which are wholly or partly constructive and not described functionally. Through the admission of variant solutions, these conventional services undergo an assessment. The challenge is the establishment of a transparent and comprehensive assessment system, where variant solutions have an influence on the award decision. This needs to be communicated at an early stage.

Admission of variant solutions can open up the contracting authority to innovative solutions at comparatively low expense.



§ Public procurement law at a glance

If the procurer wants to take into account variant solutions in the field of the procurement of supplies, services or works, he must allow or prescribe the variant solutions in the contract notice or in the invitation to confirm interest.
In the absence of such an indication, variant solutions are not allowed and may not be counted. For supplies and provision of services, this follows from § 31 para. 1 and § 57 para. 1 No. 6 of the VgV.
For works this derives from § 8 para. 2 No. 3 and § 16 Nos. 5, 6 of the VOB/A-EU.

Negotiated procedure and negotiated award

The negotiated procedure is a procurement procedure for contracts above EU threshold values, where the contracting authority approaches one or more selected companies in order to negotiate on the basis of a pre-existing description of services, with or without a call to tender (Art. 29 Dir/2014/24/EU; § 119 para. 5 of the Competition Act).

Advantages

New and innovative aspects can be considered in a negotiated procedure and negotiated award that have only come to light during negotiations with the bidder. Thus, both deficits and too high demands can be worked on and corrected during the procedure, whereby an optimal and efficient fulfilment of needs is covered. Moreover, the innovation potential of the procurement increases inevitably.

§ Public procurement law at a glance

Prerequisites for a legal award of goods or services (§ 14 para. 3 no. 1-5 VgV) or works (§ 3a paras. 2 and 4 VOB/A-EU) in the negotiated procedure with competition are that

- the needs of the contracting authority cannot be met without the adaptation of already available solutions or
- the contract includes conceptual and/or innovative solutions, or the contract cannot be awarded due to its nature, complexity or legal or financial framework, or risks cannot be assigned elsewhere without prior negotiation, or
- the service cannot be described with sufficient accuracy with reference to common technical standards, specifications or references.

Besides, a negotiated procedure within a competition is permissible, if within the framework of an open or closed procedure where no orderly or only unacceptable bids are tendered.

The negotiated procedure without competition is a special case under procurement law and subject to even more restrictive admission requirements (§ 14 para. 4 Nos. 2–5 of VgV). These are, for example,

- the contract can only be provided or prepared by a specific company or
- extremely urgent and unpredictable reasons do not allow the negotiated procedure with competition, or a supply service should be procured that was produced solely for research, trial, investigative or development purposes; or
- if additional supply services of the original contractor should be procured, for the partial renewal or extension of already defined services, where a change of contractor for the procurer would provide disproportionate technical difficulties in operation and maintenance.

The counterpart to the negotiation procedure in the below-threshold area is the so-called direct award or negotiated award. The conditions for a negotiated procurement with or without participation in competition according to § 8 para. 4 Regulation on Award of Public Supply and Service Contracts below EU Thresholds (hereinafter referred to as UVgO) are identical. In terms of content, these are based on the admission requirements of the negotiated procedure in the upper threshold range. Furthermore, the negotiated award is → permissible for the supply of goods or the provision of services for performing scientific/technical tasks in the field of research, development and investigation other than the maintenance of general service operation and the infrastructure of a department serving the procurer. In the course of negotiating, contracts following development services must be awarded to a reasonable extent and for a reasonable period of time to companies involved in the development. This also applies if it is necessary for reasons of security or confidentiality.

In the procurement documents, the contracting authority shall indicate the subject matter of the contract by describing their needs and the required characteristics of the deliveries, works or service provision, and specifying the award criteria. They also indicate which elements of the description represent the minimum requirements to be complied with by all tenders. The information provided must be accurate enough to allow economic operators to identify the nature and extent of the award and decide whether to apply to participate in the procedure |

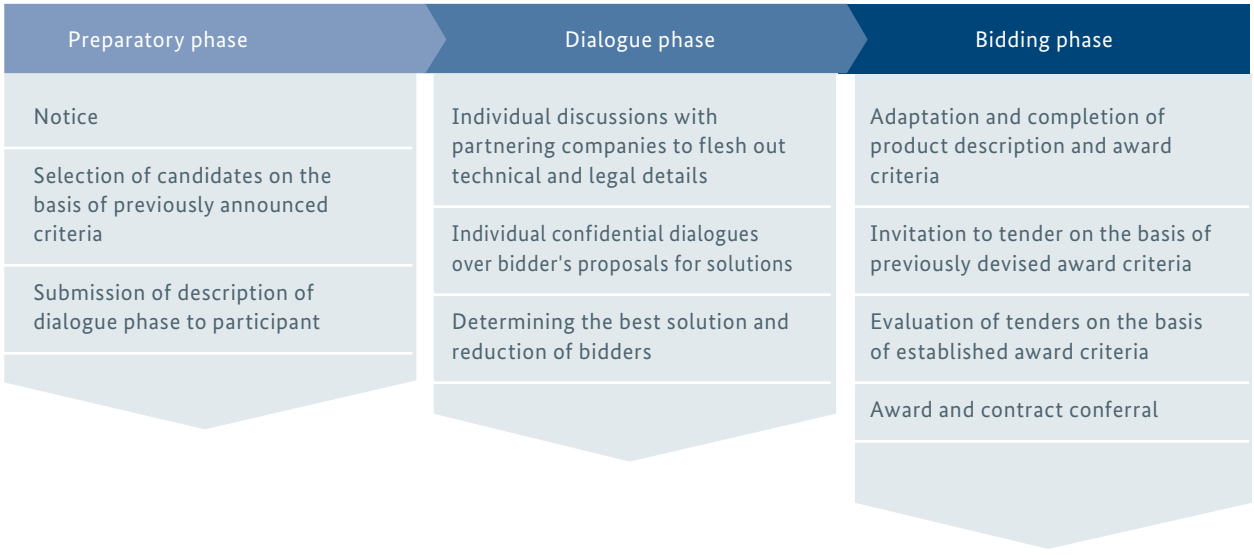
Competitive dialogue

The goal of competitive dialogue is to encourage all market information to be integrated in the final description of services, in order to meet the needs of the contracting authority as optimally as possible.

Competitive dialogue is a procedure wherein all aspects of a tender are discussed with the selected companies. According to market research, whenever there exists lack of clarity on appropriate technical possibilities or financial and legal framework requirements, or when the construction of contractual relations is poorly designed, competitive dialogue offers a flexible procedure for problem solving. A keener understanding of contractual aspects, challenges and the precise needs of the procuring organisation will be developed in the course of detailed discussions with potential bidders. The target of this dialogue is to incorporate all market information into the final description of services, thereby fulfilling the requirements of the contracting authority as optimally as possible.
The exchange process between parties offers a structured and constructive approach in developing innovative solutions. The following aspects are to be observed both before and during implementation:

- This procedure needs skilful handling and more time than conventional procedures. This process ties up more resources, since a complete project team or external support is necessary.
- The dialogue phase requires considerable time investment from the participating players (for development of solutions, design drafts, plans, calculations etc.). Where necessary, there should be reasonable compensation for this, however, this should be set out transparently in the run-up to the dialogue.
- In order to address bidders' concerns regarding confidentiality (safeguarding of intellectual property, disclosure of sensitive data and know-how) and equality, mutual non-disclosure agreements and complete documentation should be guaranteed.

Img. 3: Expiry of competitive dialogue



Advantages

Competitive dialogue is recommended in complex markets or those that are difficult to evaluate, where, for example, it is hardly common knowledge what the market has to offer in terms of technical, financial or legal solutions. In particular, in the case of innovative projects, these may be the implementation of major transport infrastructure projects or large computer networks or projects with a complex financing structure. Since specialist fields and procurement do not often commission comprehensive market research, this procedure has a lot to offer despite its complexity.

§ Public procurement law at a glance

In the upper threshold range, the framework conditions for innovative procurement have been facilitated by the new public procurement law by lowering the application requirements. The competitive dialogue is therefore always also a valid method, if the client is allowed to apply the negotiated procedure with participation of the competition and the requirements of § 14 para. 3 of VgV and of § 3a para. 2 and 4 of VOB/A-EU.

The competitive dialogue is thus an iterative method after a competition or, in which the final performance specifications will be developed with selected vendors (Art. 30 Dir/2014/24/EU; § 119 para. 6 of the German Competition Act). This is a two-part procedure for the award of "particularly complex contracts" that is regulated in § 18 of VgV and § 3b para. 4 of VOB/A-EU.

A competitive dialogue is recommended if the procurer is not able to specify the technical requirements, legal framework and cost of a project (for example, ICT or infrastructure projects). These projects are often related to technical innovation whose solutions are innovative. In the initial phase, (dialogue phase) the procurer and company jointly develop solutions for the needs of the procurer, where there is much scope for the bidders' creative and innovative ideas. After conclusion of the dialogue, the second phase begins, in which the contracting authority requests that the company start to submit their final tenders on the basis of the solutions presented and specified during the dialogue phase. (§ 18 para. 8 of VgV and § 3b para. 4 No. 7 of VOB/A-EU).

Innovation partnership

The innovation partnership has been introduced as a new procurement procedure with the modernisation of EU public procurement law (Dir/2014/24/EU, Art. 31). It is particularly intended for the development and procurement of innovative products, services and works that are not yet available on the market. Innovation partnerships link the award of a development contract to the actual procurement. Therefore no separate procedure for the purchase is required, as is the case for pre-commercial procurement (PCP). A long-term partnership is established between the contracting authority and the company, whose target it is to bring a product to market together, introduce it, and progressively develop it.

A long-term partnership is established between the contracting authority and the company, whose target it is to bring a product to market together, introduce it, and progressively develop it.

There is a call to tender in advance of the tender procedure. The companies selected will then be prompted to bid for the first tender in the form of a research and innovation project and submit it. Subsequently, the contracting authority will negotiate with the bidders on the initial bids submitted and finally on all follow-up bids. Its target is to improve the bids in terms of content. The innovation partnership will be entered into on acceptance of the final bid from one or more of the bidders. However, award of a tender solely on the basis of lowest price or lowest cost is excluded.

The innovation partnership shall be structured according to the research and innovation processes in two successive phases:

Research and development phase	Service rendering phase
Manufacture of prototypes or development of service provision of construction services	Provision of service emanating from partnership

The phases are subdivided in accordance with the determination of their intermediate targets, where it is agreed that remuneration for the achievement of a target shall be made in reasonable instalments. The contracting authority shall ensure that the partnership structure, and particularly the duration and value of the individual phases, reflects the degree of innovation of the proposed solution and the sequence of research and innovation activities. The estimated value of supplies, services and works may not be disproportionate to the investment required for development.

On the basis of intermediate targets, the contracting authority may decide at the end of each development section whether to end the innovation partnership or – in the case of an innovation partnership with several partners – to reduce the number of partners by terminating individual contracts. However, the contracting authority must indicate in the contractual notice or in the tender documentation that these possibilities exist and under which circumstances they may be invoked.

It is only on completion of the research and development phase that the contracting authority is obliged to call innovative supplies, services or works to tender, once the performance level and the upper cost limits, which had been put in place when the innovation partnership was entered into, are met.

Advantages

The innovation partnership facilitates the contracting authority to purchase products and services that are not yet available on the market. Thus research and development activities of a potential bidder may be linked to an existing problem or an as yet unresolved challenge and supported with an incentive of future procurement. However, this procedure is only suitable for complex products and services, since both sides need to expend resources and the multiple tiers are time-consuming.

§ Public procurement law at a glance

With Dir/2014/24/EU, the upper threshold area, the so-called innovation partnership, was standardised as a further procedural instrument for promoting innovation. According to Art. 2 para. 1 no. 22 Directive 2014/24/EU, the term "innovation" refers to the realisation of new or significantly improved goods, services or processes, including - but not limited to - production, building or construction processes, a new marketing method, or a new organisational procedure in relation to business practice, work processes, or external relations.

The understanding of the Directive issuer goes far beyond a technical view of innovation as a pure inventor or research services. According to "Guidance for public authorities on Public Procurement of Innovation", projects can, for example, fall under robot-based support services for the elderly, or services, such as the development of particular social and environmentally-friendly operations in the building cleaning field.

The Innovation Partnership is comprehensively defined in § 119 para. 7 of the German Competition Act as a process for developing innovative supplies, works or services, not yet on the market, and the subsequent purchase of the resulting benefits, in which the contracting authority, after a competition in several phases with the selected firm, negotiates on the initial and subsequent offers. As the negotiated procedure or competitive dialogue also allows for the procurement of innovation or innovative products and services, the sole demarcation criterion is that, to meet the requirements of, first, the development of new supplies, works or services, on the market but not available, is required.

If this condition exists, no further requirements have to be fulfilled, such as the negotiated procedure or the competitive dialogue in the case (see above). In this respect, it may be easier for the procurer, where appropriate, to use the innovation partnership as a procedure for innovative coverage of its procurement needs. The procedure and the steps in the procedure are for the individual governing of deliveries and services in § 19 of the VgV, and for works in § 3b para. 5 VOB/A-EU.

Pre-Commercial Procurement (PCP)

Pre-Commercial Procurement (PCP) is the call for bids for R&D services in the pre-commercial phase for the procurement of non-marketable solutions or existing solutions that display inadequacies. The target is the development of new products and services in a plurality of stages, where two or more developers compete with one another to find several solutions. The contracting authority can select the best solution from multiple bidders in the R&D phase. The R&D phase may occur in several stages: for example, there may be five bidders working in the concept-building stage. Following selection, three bidders develop the prototype and finally two bidders the marketable solution. Then the allocation goes to one bidder, namely the one who developed the best solution. However, the procurement officer is then free in their decision. The procurement procedure need not be carried out. Should the decision to purchase be made, they may select the best solution as part of the then commencing procurement procedure, which occurs in the PCP procedure; but they may also seek out a totally different solution outside the PCP procedure. The procurement procedure is also legally independent of the development phase. In contrast, the innovation partnership award is granted to only one bidder or a bidding consortium that is a "partner" in the development phase and the procurement procedure, without being newly put out to tender following the completion of the development phase.

PCP is not a procurement procedure in the strictest sense, but rather an instrument for promoting innovative, more efficient and sustainable public sector service provision.

This instrument is implemented prior to public sector procurement, and is thus not subject to the procurement guidelines of the WTO (Government Procurement Agreement – GPA). The principles of transparency, non-discrimination and equality must still be respected (European state-aid rules applicable). Furthermore, the following is relevant:

- The PCP process represents the typical stages of a product innovation cycle. The peculiarity is that the research and development contracts are decoupled from subsequent commercial marketing. Intermediate assessments are made for the individual phases. Risks are minimised this way and the best solutions selected.
- Risks and benefits in PCP are shared between the contracting authority and the bidder on market conditions. The contracting authority does not receive the exclusive rights of use of R&D results, but makes these available to the bidders within the framework of the PCP phase of the future call to tender (Procurement on Innovative Solutions – PPI) for the actual procurement and commercial exploitation of the new product solution. This provides a clear incentive to companies, as the R&D results are fully usable and subsequent marketing is thus possible. Thus there is a second real strategy, even when a company is already eliminated in one of the PCP phases or whose subsequent bid is not accepted.

§ Public procurement law at a glance

The EU Commission has made considerable efforts within the framework of the "Horizon 2020" programme to facilitate public investment by means of innovative procedures such as Pre-Commercial Procurement (PCP) and Procurement on Innovative Solutions (PPI).
The legal framework for PCP and PPI projects is mainly the Treaty on the Functioning of the European Union (TFEU), the EU Public Procurement Directives (2014/23/EU, 2014/24/EU and 2014/25/EU), and public procurement law (GWB, VgV, VOB/A-EU, UVgO, and VOB/A), and budgetary regulations.

PCP as a procurement instrument was introduced by Communication from the Commission (COM (2007) 799 final) on "Pre-commercial procurement".
Pre-commercial procurement is therefore an approach to the award of public contracts for research and development services whose results are not exclusively the property of the contracting authority.
The condition is that the service is not fully remunerated by the contracting authority and that, in the Commission's view, the contracts do not constitute state aid.
The absence of State aid can be seen in Communication from the Commission 2014/C/198/01 (para. 33).

Specifically, PCP is understood as the first stage of a two-step procurement procedure.

Advantages
The public sector can minimise risks in procurement, where several bidders develop a solution and are then filtered out during several intermediate stages of the competition, leaving the best bidder. Development costs may not exceed the financing of one developer, as the developer bears a high proportion of the cost themselves since they retain the right to use their solutions elsewhere in the event that they are inferior in the competition.

e-procurement

"e-procurement" entails the implementation of the public sector procurement contract by electronic means. By far the most important of the new procurement guidelines arising for public and sectoral contracts is generally the mandatory use of electronic procurement and electronic tendering.

In the upper threshold range, § 97 para. 5 of the German Competition Act that entered force on 18 April 2016 basically provides for the use of electronic means for the sending, receiving, forwarding and storing of data by the procurer and the company in a procurement procedure – and in accordance with the stipulations issued pursuant to § 113 of the German Competition Act (GWB), German Regulation on the Award of Public Contracts (VgV), Sectoral Regulation (SeKtVO), and Concession Contract Regulation (KonzV). A reprieve for central procurement bodies until 18 October 2018 is possible. As of this date, all procurements within the scope of the guidelines for contracting authorities and sectoral contractors must be performed by electronic means, subject to certain exceptions. The aforementioned possibility for a reprieve only applies for interactive communication including electronic tenders, however not for the required electronic provision of procurement documents which had to be implemented nationally within the regular implementation deadline of 18 April 2016.

In the sub-threshold range, pursuant to § 38 para. 3 German Regulation on the Award of Public Supply and Service Contracts below the EU Thresholds (UVgO) of 1 January 2020, the contractor establishes that companies exclusively submit their requests to participate and bids in writing using electronic means. In fact e-procurement will already be introduced by 1 January 2019, since, pursuant to § 38 para. 2 of the UVgO, the contractor must already accept electronically transferred tender applications and bids by this date, even when the correspondence is purported to be by post, by fax or any other suitable means.

Advantages
However, for the contractor it is a question of mandatory electronic processes in the upper threshold range and the introduction of a certain limit in the sub-threshold range. This leads to a standardisation of procurement processes, reduces operational expenses in procurement bodies significantly, and thus mutual process costs in the long-term.

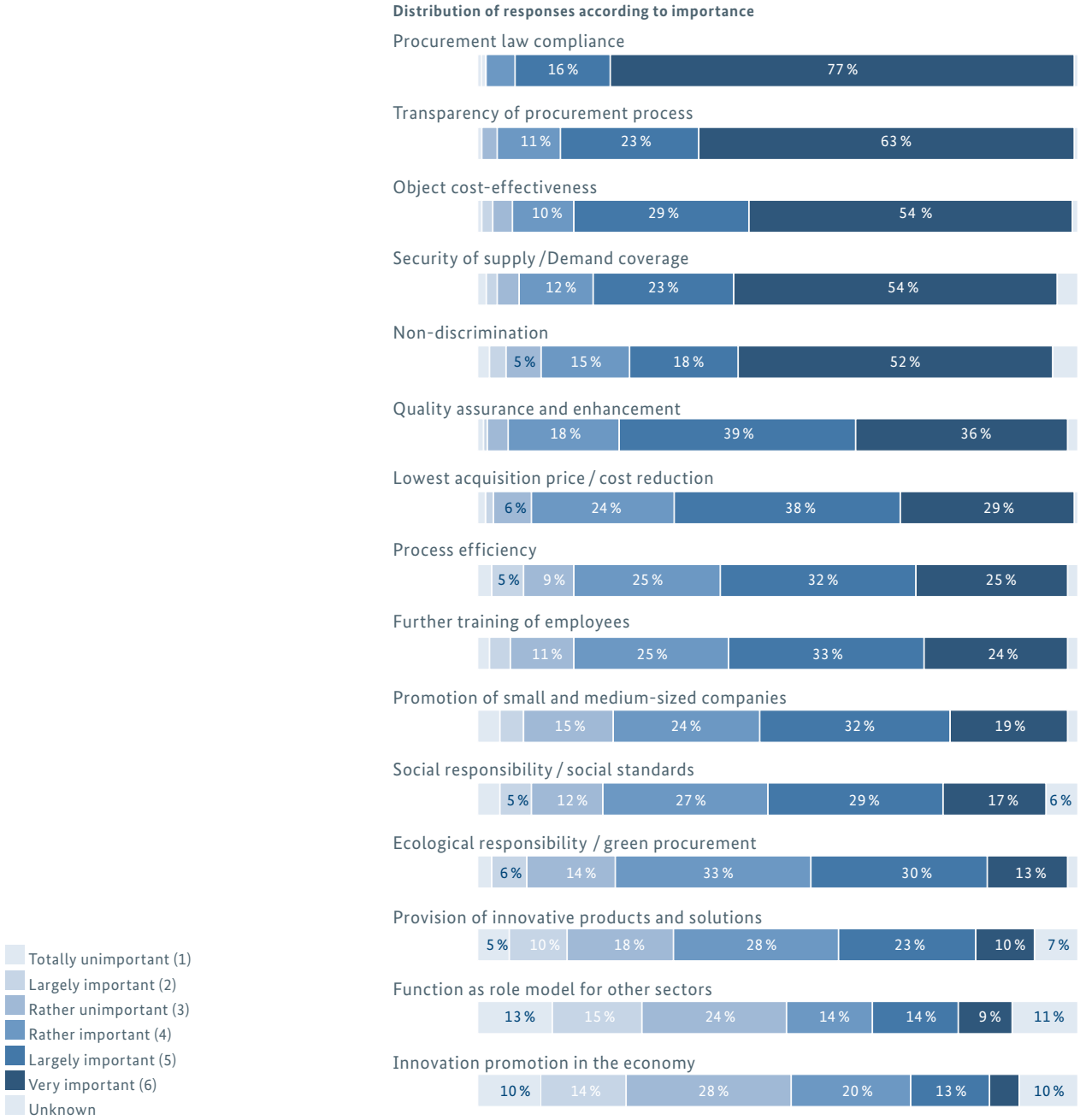
3

Innovative procurement as a basic principle

Challenges and obstacles

Most public sector procurers are unaware of the potential significance that they exercise in innovation promotion.

Despite the considerable advantages of innovation-oriented procurement, the new technologies and innovative products in the public sector are all too rarely implemented. This is already clear in the current targets of procurement and award bodies (Img. 4), as the “Public procurement of innovation" (2016) survey by the Bundeswehr University Munich survey, commissioned by the Competence Centre for Innovative Procurement (KOINNO), indicates.



Img. 4: Target system of procurer (Source: UniBW/KOINNO 2016, Graphic revision: waldmann-gestaltung.de)

Accordingly, compliance with current procurement law is clearly the No. 1 priority in a procurement, although this has almost nothing to do with the goods and services being procured. You will find that the provision of innovative solutions and products rank only in 13th place. Awareness of the significance of their position for the potential promotion of innovation is

largely absent in public sector procurement bodies. Therefore it is important that players change their general attitude towards the topic of innovation, in order to procure a more economic and user-friendly environment. Obstacles often hinder attitudes in the individuals involved, where in-house or a formulated contract often stands in the way of innovation-oriented procurement. Examples of such obstacles are:

Users

- ... Those accustomed to conventional procedures with misgivings about innovative techniques that they may consider cumbersome

Bidders

- ... Those with conservative problem-solving proposals who turn to procurers, because these promise a conventional solution rather than a contingency
- ... Those who do not appreciate the possibility of variant solutions being awarded the tender
- ... Those who do not take a calculation of life-cycle costs into account

Procurement officers

- ... Those who prefer well-tried technologies, because they fear the risk of new techniques
- ... Those who pay scant regard to life-cycle costs and/or innovation-oriented targets
- ... Where requirements are described too specifically rather than functionally
- ... Those who disallow variant solutions
- ... Those lacking market and technological proficiency
- ... Those with little time to immerse themselves in innovation in detail
- ... Those who do not exchange experiences with other procurers
- ... Those who do not use new procurement procedures and instruments
- ... Those where suitable equipment and instruments are lacking - risk and project management tools, for example.

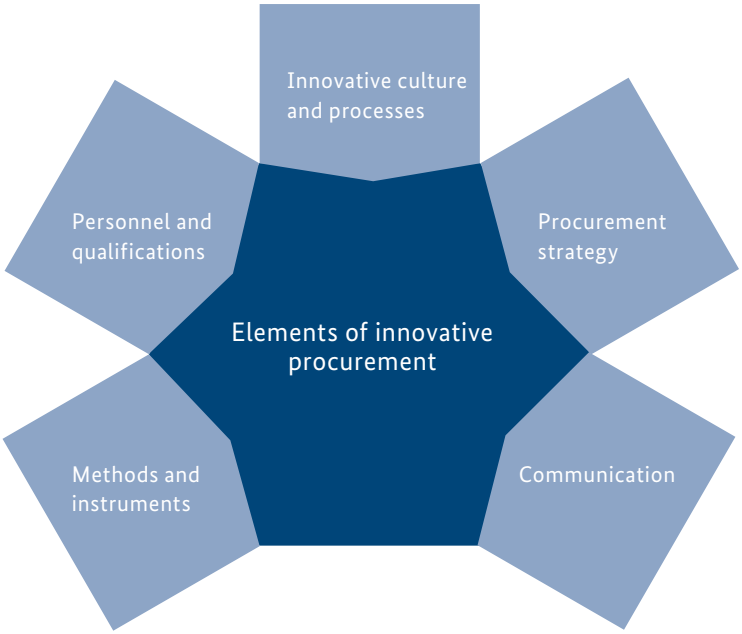
Strategic decision-maker

- ... Those who fail to recognise public procurement and its implementation as an innovation policy instrument
- ... Those whose grasp of the potential and advantages of the procurement of innovation is absent
- ... Those who fail to give procurers clear targets and strategies for innovation-oriented procurement.
- ... Those who provide little cover for procurers when dealing with unforeseen risks
- ... Those who provide no or inadequate financial incentives and/or resources (time, capital, tools etc.).
- ... Those who do not support an innovation-friendly environment within the procurement body.
- ... Those who do not recognise the importance of innovation procurement or do not communicate this further.

The goal must be to optimise the procurement itself, i.e. employees are better trained, to deploy more financial resources, and to offer incentives for innovative behaviour. This is a task for all players involved in the procurement process. At the same time, it is the job of the Competence Centre for Innovative Procurement to provide necessary information.

Recommendations for action

Framework requirements must be in place first in order to facilitate an innovation-oriented procurement in the public sector. The following elements are especially relevant:



Img. 5: Elements of procurement of innovation (echoing: BMWA [2007], procure_inno – Practical guide to innovation-friendly procurement for public procurement bodies, Vienna)

Innovative culture and processes

A continuous culture of innovation within the procurement organisation provides the basis for the successful establishment of innovative procurement. This allows new ideas to be picked up quickly and turned into marketable products and services. The following aspects play a role in this regard:

- Clear strategy and mission of procurement department
- Innovative processes that enable uncomplicated and rapid communication as well as time and cost savings (for example: eProcurement)
- The qualifications and motivation of employees
- National/international exchange between procurers and bidders
- Establishment of interdisciplinary project teams
- Culture shift away from risk avoidance towards conscious contact and management of risks
- Positive feedback and interest in progression

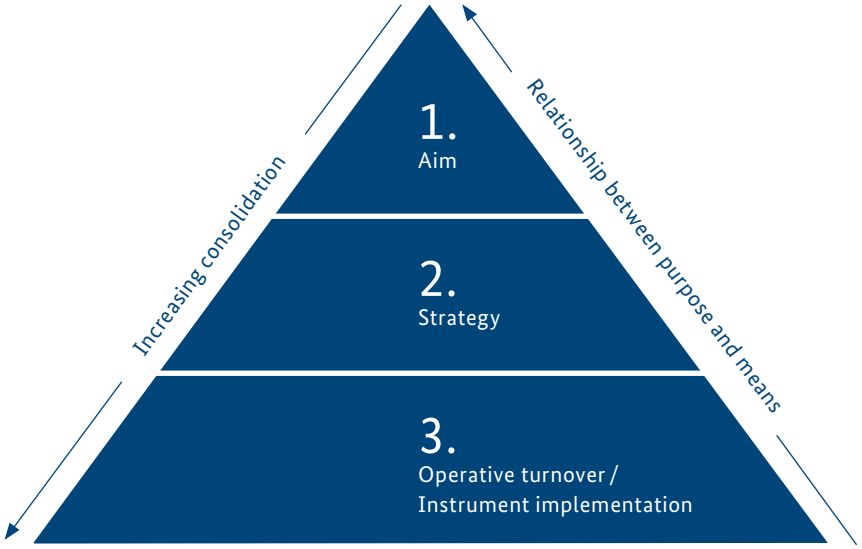
Procurement strategy

It is advisable to work out an overarching procurement strategy, from which content-related goals and recommendations for action for the procurement offices can be derived. This strategy is the basis for the structured transition to more innovation. Basically, the following topics should be covered:

- Application area and ancillary conditions
- Legal basis and relevant documents
- Targets, values and principles
- Process descriptions with competencies/mandate and interdependency
- Tools such as checklists and guides
- Reporting process and evaluation criteria

The following questions should definitely be answered in the preparation:

1. **Targets: "Where do we want to go?"**
   For example: Setting a quota on procurement of innovation or a defined quantity of innovative products
2. **Strategies: "How do we get there?"**
   For example: early involvement in procurement; employee training; increase in negotiated procedures; expansion of market research
3. **Instruments: "What do we have to implement to do so?"**
   For example: functional performance specifications; option of variant solutions; external support; piloting an innovation partnership



Img. 6: The three levels of strategic concepts

Communication

- **Early market communication:**
  Through active procurement marketing in the form of prior information (outside the procurement process), the public sector should open early and targeted channels of communication with the market. This affords potential suppliers the opportunity to allow public sector requirements to be integrated into their planning (research & development) and lay early groundwork for innovative solutions.
- **In-depth market survey and research:**
  An intensive exchange of information between the market and the procurement officer assists in being able to localise and assess innovative solutions and future developments. Here, the procurement body should engage in close engagement with potential users.
- **Early inclusion of purchasing department:**
  This should be ensured even before final budget provision. Once the financial resources are in place, the time remaining often does not suffice for comprehensive discussions and research.
- **Exchanges with other procurement bodies:**
  This can be useful when similar targets have been achieved elsewhere. Knowledge may thus be gained on whether a novel technique has already proved successful and which teething problems have to be considered.

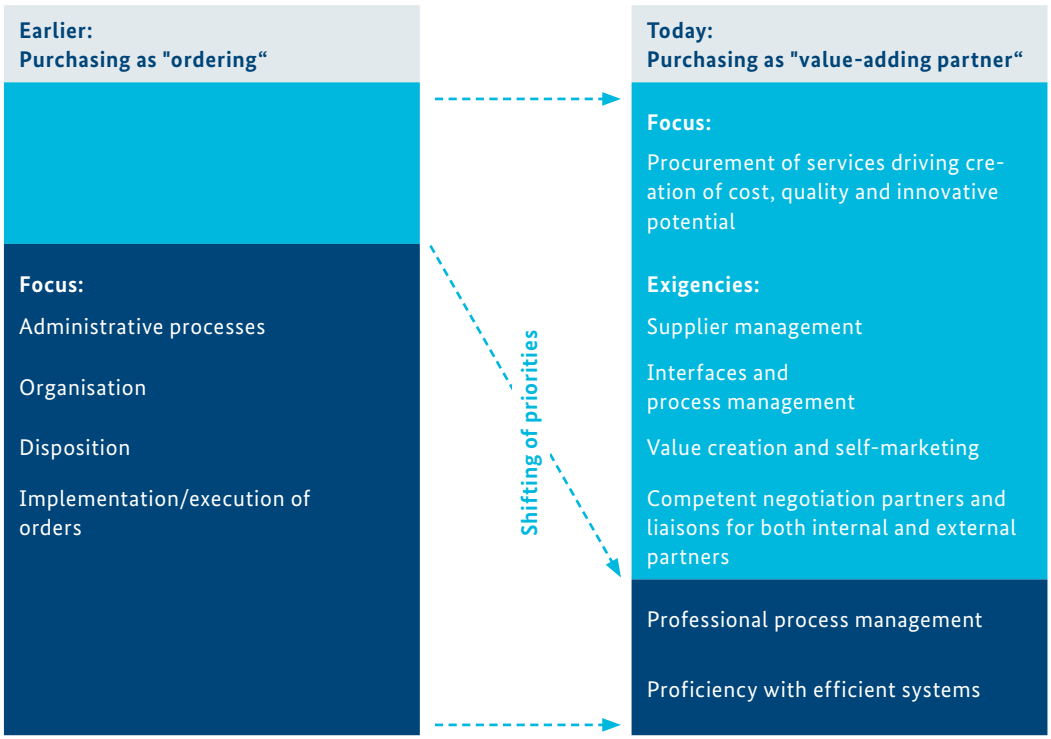
Methods and instruments

The provision and proficiency of various tools supports the operative procurement officer in the complex processes of innovation procurement. These tools may be guides, checklists for individual processes and/or sectors, tender templates, proposals for appropriate selection and award criteria, as well as legal expertise in important individual matters. Moreover, economic methods and standards are relevant, where the utilisation and implementation of their strategic aspect must be encouraged. You can find these aids in the KOINNO-Toolbox.

You can find practical methods and instruments such as the life-cycle cost calculator in the KOINNO-Toolbox

Personnel and qualifications

Shortage of employees or inadequately trained staff can pose a considerable obstacle to innovation procurement. More resources are necessary in the initial phase of an innovation, such as the implementation of new procurement procedures or the use of innovative products, than in normal operation. Due to increasing complexity, more resources may also be needed in the latter stages. In the past, procurement largely consisted of professional competence and coordination and administration of orders. Today clearly more complex tasks are focused on, such as the management of numerous interfaces and different requirements. Training in legal procurement principles no longer suffices. Whereas procurement had earlier been perceived as ordering, today value-adding activities are increasingly performed in the procurement area.



Img. 7: Shifting of tasks and requirements

The demand for qualifications has grown enormously with new procurement procedures and the procurement of innovative services. This is indicated in the separation of operative and strategic procurement officers and reflected in the requirements:

- New procedures and innovative solutions entail risks that require courage and dedicated testing as well as extensive organisational skills.
- Professional expertise in merchandise management systems and modern communications media is assumed. Therefore, employee IT skills must be state of the art so that they can operate an eProcurement programme.
- The significant increase in the breadth of products requires the establishment of high-level, professional competence. Procurement officers must not only understand internal processes, but also those yielding performance, as well as the innovation and production processes in industry.
- In order to exercise new coordination tasks in project management, there is a greater need for enhanced social, methodological competence and soft skills. Negotiation and team work are essential in achieving targets today.
- Global procurement markets require foreign language skills, intercultural competences, and the agility to move in foreign legal spheres.
- Increasing product complexity requires business and technical knowledge in order to weigh up economic advantages and disadvantages in a detailed fashion and the ability to assess technical risks.

The need for training courses, qualifications, certification, together with advanced training and further education, is of increasing significance for procurement. Here are a variety of measures on offer:

- Internal training (such as e-learning modules) as well as the provision of specialist literature and magazines
- External trade-oriented training (such as for procurement law, profitability analysis, market analysis, selection of suppliers and foreign languages)
- Team-oriented training (such as consultative/negotiation skills, team building and conflict management)
- Vocational training programmes at colleges

Advanced training is partly an individual responsibility, but it is also a central management task. It is thus crucial that heads of procurement bodies support their employees in further training ambitions and jointly identify appropriate qualification measures for the field of work. Germany's Federal Government has created the framework conditions for participants to secure measures for further vocational training with financial support through its Upgrading Training Assistance Act (AFBG).

Employee motivation plays a key role in procurement bodies. In this context, appropriate incentives and reward systems should be introduced and/or expanded. Thus, bonuses can be paid to high-performing employees. This instrument exists in public sector law, though it should be applied more enthusiastically. Furthermore, the annual award Innovation Takes the Lead ("Innovation schafft Vorsprung") for innovation by the BMWi and BME serves as an incentive for all procurement officers.

Innovation prize
"Innovation Takes the Lead"
www.koinno-bmwi.de/en/koinno/innovation-prize

Schedule for procurement of innovation

Employees at procurement bodies are responsible for the efficient implementation of procurement processes. With their specialised expertise and management, they can innovatively shape the procurement according to their potential and mandate. They can also apply procurement law in such a way that procurement of innovation is facilitated. This generates enormous advantages:

- **Higher number of potential bidders**
  The functional description of requirements and the possibility of the admittance of variant solutions often leads to an increase in bidders and solutions. This increases the opportunity for innovative solutions, enhances competition between companies, and influences both price and quality.

- **Development of market and technology knowledge**
  The intensive exchange between suppliers and users on possible innovative solutions increases knowledge of the products and services to be procured. This may prove useful for future procurements in the same or similar sectors.

- **Reduced probability of procurement failures**
  Detailed market research as well as discussions with a number of users and bidders in the course of innovation procurement reduces unwanted or useless functions in the IT sector, for example. The risk of undelivered requirements will be reduced.

- **Risk and cost reduction**
  Due to the pooling of demand, procurement risks may be shared with other procurement bodies and procurement cost savings made because of economies of scale. This simultaneously increases the attractiveness for suppliers and may lead to a larger number of bidders.

The assurance of a high level of innovation from a procurement body is the comprehensive implementation of clear procurement processes and explicit responsibilities.

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In the following, options for action are listed in the individual stages of the award process, which should be considered at least in the case of complex awards. Naturally, the respective application of options for action is subject to the respective individual assignment in detail.

Schedule for procurement of innovation

1	Needs assessment	· Identification and prioritisation of procurement requirements on the basis of innovation domains
2	Project planning	· Building a team with relevant interdisciplinary skills and experiences
3	Setting of goals and tasks	· Survey of all relevant stakeholders and initial market analysis · Rough functional definitions of requirements and targets
4	Prior information notice	· Early communication to market of planned procurement activities, so that prospective bidders have adequate time for planning and preparing tenders
5	Market exploration and research	· Intensive information exchange between potential bidders and purchasers · Detailed market knowledge, assessment of potential solutions and future developments
6	Selection of procurement procedure	· Establishment of procurement procedure (open tender, negotiated procedure, competitive dialogue, innovation partnership or pre-commercial procurement)
7	Selection of procurement procedure	· Formulation of exact functional requirements and award criteria · Inclusion of innovation promotion contract content
8	Publication, evaluation and award	· (Electronic) tender and acceptance of offer · Assessment of preferred offers · Tender award
9	Contractual implementation and management	· Securing and testing quality and performance criteria · Monitoring of time and resource planning
10	Conclusion of project	· Feedback from/to supplier, identification of optimisation potential · Communication of the successful project; development of good examples and references

Img. 8: Schedule for procurement of innovation (echoing: Clement, S., et al [2009], Driving energy efficient innovation through procurement – A practical guide for public authorities, SMART SPP and ICLEI)

1 Needs assessment

Since new technologies and innovation bring comprehensive changes, strategic decision-makers should be included in discussions from the start. Moreover, not all procurement activities can be performed at the same time. Some have a greater urgency and utility than others. Furthermore, attention should be paid to the following aspects:

a) **Embedding of procurement in political objectives:**
Innovative procurement aspirations and measures are often derived from the political context. Here, among other things, specific policy target values, such as energy savings, social impact and innovation, play a role. This can facilitate the approval of funding and should be taken into account throughout the procurement process.

b) **Consultation within the organisation:**
Once possible innovative procurement projects have been reviewed and selected, they should be harmonised with the internal stakeholders:
- Other procurement officers should be included to take advantage of their experience and examine pooling aspects.
- End-users should be interviewed, in order to benefit from their practical experience and to assess enthusiasm for innovative solutions.
- Strategic decision-makers should be involved in discussions on project objectives, bring them into a strategic context, and establish available resources.
- The budget department should be informed in order that they may perform life-cycle cost calculations and check funding.

c) **Exploring national and international funding possibilities:**
Current funding possibilities may be found on the website of the Competence Centre for Innovative Procurement (KOINNO) at www.koinno-bmwi.de/en.

2 Project planning

The procurement of an innovation may be considered a project. The initial planning phase thus has a direct impact on the success of the project and is therefore critical to highlight. Possible planning errors may lead to significant cost and time overruns. The following aspects are relevant:

a) **Composition of planning team:**
All the necessary skills and knowledge in the team should be available throughout the duration of the course. Additionally, the team should be interdisciplinary:
- **Project management skills:** Coordination of personnel, work schedule and budget.
- **Technical skills:** Specialist knowledge and experience are needed to provide a reliable estimate of new technologies and the market and precise requirements.
- **Expertise of procurement law:** This is necessary for legally flawless market communication, preparation of the tender documentation, and the selection of the appropriate award procedure.
- **Economic knowledge:** Amongst other things, this is necessary for the implementation of budget planning, calculation of life-cycle costs, and the application of other economic methods.

Other players may also be required during the various project phases and be included, but need not be part of, the project team (for example, end-users, external consultants).

b) **Search for collaborative public sector partners:**
Pooling need with other public sector bodies can deliver a host of advantages. For example, this may bring about lower purchase prices, the consolidation of specialist knowledge, and the pooling of procurement risks.

c) **Involving internal stakeholders during the entire course of the project and in the assessment of solutions:**
As a result, the success of the actual procurement project, and the use of the product, should be ensured in practice.

d) **Involving external support and advice:**
Should the necessary expertise not be available from within the organisation, skills may be sought externally. Here are some considerations:
- Government agencies that can assist with assistance measures, innovation and public procurement law
- Research institutes and consulting companies for the calculation of life-cycle costs or to carry out market analyses etc.
- National and international networks for the introduction of expertise and market knowledge
- Procurement agencies, to outsource parts of or the entire procurement

e) **Project schedule planning:**
The schedule is the basis of project management. The following aspects need to be attended to here:
- **Project structure plan:** The procurement project will be structured on the basis of technical requirements according to workflow and commercial considerations.
- **Scheduling:** Scheduling is derived from the project structure. Schedule establishment and the definition of milestones play an important role here.
- **Resource planning:** In addition to the deployment of available personnel, the timely use of funding and other resources are to be ensured.

f) **Risk management:**
A prospective analysis and planning of risks and the derivation of appropriate precautionary measures ensures that risks are prevented or minimised in a timely fashion.

3 Setting targets and requirements

A key component of innovation procurement is the critical testing of available solutions and formulation of new exigencies. These should be functionally defined and not aim at a specific technical solution, since the market should be afforded the possibility of proposing different solutions. The following aspects play a role here:

a) **Definition of as-is state:**
A clear definition of the starting point is necessary to set the project's framework requirements. Additionally, the possible benefits of the project can be communicated more tangibly.

b) **Definition of to-be state:**
A formulation of the project's rough objective is necessary prior to communication with the market.

c) **International experiences and reference projects:**
An exchange with international procurement bodies may be useful, particularly when similar targets have been realised there. In this way knowledge may be obtained, such as whether innovative technology has already been implemented and the types of difficulties that had occurred.

d) **Consultation with end-users:**
Requirements that will form the basis of an in-depth functional description should be derived from this discussion.

e) **Rough market research:**
It may prove useful to perform cursory market research in this phase. The objective is to become familiarised with available market solutions, define key market players, address sector associations, and identify potential suppliers. The following possibilities are information sources:
- Company websites, manufacturer databases (for example: "Who delivers what?", www.wlw.de/en/home), award and procurement forums, and brochures
- Scientific publications and databases (www.ebsco.com, www.sciencedirect.com)
- Participation in (trade) fairs and membership in professional associations and other networks

4 Prior information notice

Early communication of precise requirements and exigencies in the market increases the ability of potential suppliers to respond. The following aspects should be considered here:

a) **Identification of suitable bidders and communication channels:**
New potential suppliers should be addressed, in addition to traditional and well-known suppliers. This also includes SMEs whose focus is not on the public sector. Furthermore, traditional and geographic boundaries should be reconsidered. Existing communication channels should be probed in order to determine whether new bidders may be reached. Sectoral associations and chambers of commerce should be involved and sectoral literature and trade fairs used. It is a time consuming, but nonetheless important, step that directly affects the success of the project.

b) **Publication of early information in order to garner interest:**
Letters of announcement and pre-announcement to the market, based on the identified needs in step 3, should be made through previously established channels (own website, direct contact to potential suppliers etc.). As much information as possible regarding requirements, application area and expected service capability should be provided. Moreover, companies should be called upon to signal whether they have any interest in a potential tender and to participate in consultations when needed. In the spirit of transparency, clear information on consulting activities and on the protection of potential providers should be specified in the prior information notice.

5 Market exploration and research

The requirements and objectives should be verified and refined through intensive market communication and analysis. There is a multiplicity of options for research and information exchange:

› **Internet and database research:**
In the event that a market research survey has not been carried out in step 3, it should be performed now in this step at the latest. The Internet and scientific databases are suited for this purpose.

› **Market sounding prospectus:**
Bidders may be asked to submit non-binding bids containing the following information:
- Technical details and functionalities
- Information regarding potential savings (energy, maintenance, acquisition costs etc.), developmental stage, and readiness for market
- Preliminary cost estimate/indication
- Potential risks
- Standards adopted for determination of data

The information obtained may not be used to exclude suppliers from the actual tender. Non-disclosure agreements are usually exchanged between parties in order to safeguard critical data from disclosure.

› **Open seminars and workshops:**
Open engagement with potential suppliers may clarify important questions. As this engagement is public, technical and confidential details such as price information are usually withheld.

› **Closed discussions:**
This very direct form of communication is undertaken with potential suppliers individually and confidentially. It is very effective but requires the bidder's strict compliance with fundamental principles such as transparency, non-discrimination and equality. Consequently, the procedure and result of these meetings should be documented and the results should not lead to the exclusion or preference of individual suppliers.

6 Selection of procurement procedure

Based on the results of the market research surveys, the most appropriate award form and preparation of tender documents often emerge. It is important to note whether the contractual volumes are above (AT) or under (UT) the EU threshold values. In principle there are five different possibilities:

1. **Public (UT) and open tender (AT):**
   The primary standard procurement procedure

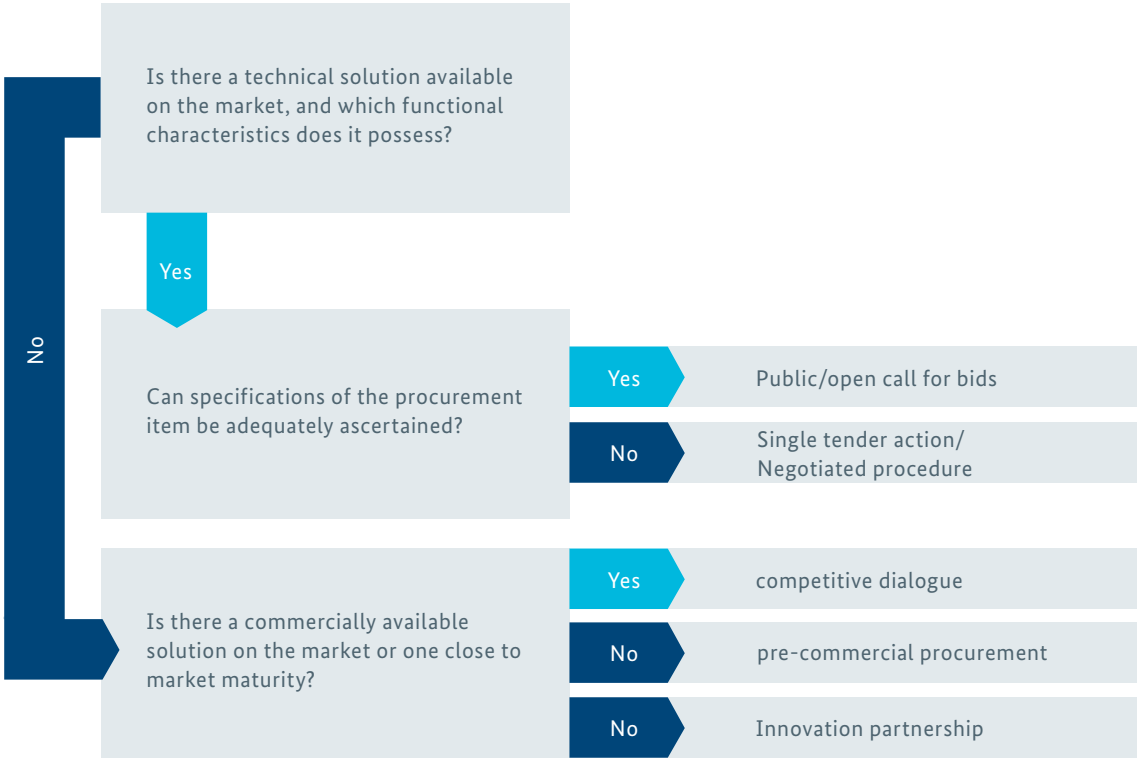
2. **negotiated award (UT) and negotiated procedure (AT):**
   Here, there is the possibility to tailor the procedure to the specific features of the service to be procured. In the context of a pre-ongoing competition open to all bidders, the latter may propose solutions still unknown to the procurer.

3. **Competitive dialogue:**
   This is applied in particularly complex contracts, as the requirements in discussions with several suppliers are functionally described.

4. **Pre-Commercial Procurement (PCP):**
   This is an instrument for the procurement of non-marketable innovation, where research and development is still necessary before marketability.

5. **Innovation partnership:**
   This new procurement procedure links the award of a development contract with the actual procurement and thus forms the basis of a long-term partnership between the company and contracting authority.

Fundamental questions are asked for the selection of the appropriate form of award that must be answered after the market research and consultation (see Img. 9).



Img. 9: Decision tool for selection of procurement procedure

7 Call to tender and contract design

Following selection of the appropriate procurement procedure, innovative design of the call to tender and the contract is required. There are some aspects to observe that promote innovative procurement:

a) **Description of service:**
The form of description of service has a direct influence on the bandwidth and quality of the bids submitted. It is formulated on the basis of the preliminary steps 1 to 5 and a further competitive dialogue, when necessary. Since an inadequate description of services often leads to time- consuming further questions and misunderstandings, sufficient time and resources should be set aside for this step from the start. The description of services should be oriented towards services and use functional formulation.

b) **Award criteria:**
With regard to the award criteria, it should be noted that bids are independent, objective and provided there is effective competition. Here, principles such as equality, non-discrimination and transparency are to be observed. The criteria and their relative weighting should be clearly defined in advance. Basically, contracting authorities are free to decide which criteria to apply and how these are weighted. It should be noted that in procurement of innovation, both cost savings and a more efficient service provision while observing innovation aspects should be facilitated. For example, this may be achieved by the minimal use of raw materials, sustainable production methods, energy efficiency, implementation of renewable energy sources, emission reduction, reduced water consumption, waste reduction, recycling, or the substitution and/or reduction of hazardous chemicals.

For this reason, the MEAT (Most Economically Advantageous Tender) approach is applied, as it considers complete life-cycle costs with all relevant criteria. This also corresponds with the principle of efficiency. Besides the price or the costs, qualitative, innovative or socially responsible criteria are taken into account, particularly

1. quality, including technical values, aesthetics, practicality and accessibility of the service, particularly for individuals with disabilities, their compliance with the "Designs for All" requirements, social, environmental and innovative characteristics, as well as marketing and commercial conditions;
2. the organisation, qualification and experience of the personnel executing the contract, where the quality of the personnel assigned can have a significant impact on the level of contract execution;
3. availability of customer service and technical assistance as well as delivery terms such as delivery deadline, delivery procedure and delivery and execution time.

The contracting authority may specify that the "costs" award criterium is calculated on the basis of the life-cycle costs of the service. This then gives the method used in determining life-cycle costs and which information should be conveyed to the company for calculation in the contractual notice or the tender documentation. The calculation method may include the following:

1. acquisition costs
2. operational costs, especially energy and resource consumption
3. maintenance costs
4. costs at end of service life, particularly collection, disposal or recycling costs
5. Costs incurred due to the external effects of environmental pollution during the life-cycle of the service, insofar that the monetary value can be determined and tested; for example: costs of greenhouse gas emissions and other pollutant emissions as well as other costs for the mitigation of climate change

Thus, solutions that do not have the lowest acquisition price can be as economically advantageous. This can clearly favour the procurement of innovation, as these are often characterised by lower operating and/or disposal costs.

In regard to requirements to potential bidders, qualitative criteria should also be formulated. Factors like credibility, experience with the bidder, turnover, staffing level, capacity, maintenance and parts guarantees play a role here. However, these criteria should be adjusted to the complexity and size of the contract, so that start-ups or SMEs without experience with public contracts are excluded. With regard to the necessary experience, this should not be based upon that of the company but rather on the expertise of the employees. It is important to define these requirements clearly and to emphasise them as admission requirements for the procurement contract.

c) **Management of intellectual property rights for innovative solutions:**
Should exclusive products and developments be procured, this is often reflected in a higher price, since the supplier cannot exploit the rights in other projects. Conversely, property rights ceded to the supplier for further use normally result in lower procurement costs. A middle way presents itself for the mutual utilisation of property rights. Here the contracting authority is in receipt of licensing fees, should the supplier use the rights in other projects. However, it is basically desirable to leave the rights entirely to the supplier in order to facilitate broad market diffusion of the innovative solution. Here the principle is that the party who maintains the rights, should have the ability to use these in the best way possible.

d) **Pilot phase:**
Innovation procurement harbours financial and technical risks. The establishment of a pilot phase to test initial products is an effective means to reduce them. This may mean:
- Division into two separate procurements
- Establishing a test phase prior to the procurement is fully complete. The procurement has only been completely performed once verification of contractual characteristics has been carried out. Should problems arise the contract may be terminated.

The second approach has the advantage that the bidder has the greater degree of security in terms of volume. In principle, both possibilities raise critical questions, since they have the ability to affect economies of scale negatively.

e) **Admission of variant solutions:**
As explained earlier, variant solutions promote the procurement of innovative services. They should be offered as alternatives to bidders. However, the procurer must specify the minimum requirements for variant solutions and the parameters of comparability between variant solutions for services and those of main bids.

f) **Innovative contract design:**
A fair division of risk should be contractually governed. This may be done with reasonable penalties payable if the solution does not achieve the warranted performance characteristics. In very long-term contracts such as the provision of IT services, these may be regulated in such a way that new technologies can also be used as soon as they become commercially available (within fixed cost limits). Optimisation and innovation should be favoured when the supplier can introduce proposals for improvement and these win awards.

Alternatively, there are results-based contracts where an innovative medium facilitates cost-effective and innovative procurement. In results-based contracts or performance-based contracting (PBC) there is a procurement that explicitly purchases performance results rather than products or services. To this end, strategic performance criteria are determined and are contractually directly coupled to remuneration. For example, common criteria are availability, reliability, maintenance intervals, lifetime, or life-cycle costs. The Bundeswehr and police use performance characteristics, such as "spare part availability" or "flying hours of a helicopter" when purchasing (instead of the helicopter itself). The contractor receives the actual desired service and transfers certain risks to his supplier. In contrast, the supplier maintains extensive scope in terms of decision and innovation to boost profitability.

8 Publication, evaluation and award

This step in the process contains the following measures:

a) **Call for tenders:**
Note whether the procurement volume is over (AT) or sub (UT) threshold values. Above threshold values are governed by the rules of the "Government Procurement Agreement" (GPA) of the EU and other countries. Sub-threshold values (UT) are governed by national law.

In the upper threshold range pursuant to § 40 VgV and §12 of the Procurement Regulation for Public Works (VOB/A-EU), contract notices, prior information, award notices, and notices of order modifications (notices), are to be transmitted to the Office for Official Publications for the European Union (EUR-OP) by electronic means. Notices may be published at a national level only after publication by the EUR-OP or 48 hours after confirmation of receipt by the EUR-OP.

In the sub-threshold range, public sector procurer's order notices pursuant to § 28 of the UVgO to be published on the procurer's website or portal. Order notices may additionally be published in newspapers, official gazettes, or specialist magazines.

Order notices on the procurers' website or portal must be determined centrally via the search function of www.bund.de. Notices below the threshold value may also be published on the TED portal of EUR-OP at ted.europa.eu. Bidders from throughout the European Economic Area may participate.

b) **Bid submission by interested companies:**
The bidders should be encouraged to submit electronic tenders. In addition, it is also important to comply with the time frame. Questions to the bidder regarding the tender should be answered as soon as possible and the answers of all participants should be made accessible.

c) **Evaluation of companies and bids by the evaluation committee, award and contract award:**
The collected bids are arranged in a bidder list and formally checked for suitability and completeness of the information. This is followed by a general audit of the companies, to see whether they are suitable for participation in the procurement procedure (capacity, stability etc.).

Evaluation of bids will then be performed objectively by the evaluation committee on the basis of the award criteria. This requires a transparent assessment of the solutions, as well as a competent evaluation committee. Assessment is often difficult, particularly in the field of innovation. Therefore, the contracting authority must possess adequate legal and technical expertise. The result of this weighted analysis is the internal awarding decision for the most economical tender.

In the upper threshold range, the contracting authority, pursuant to § 134 para. 1 of the German Competition Act, must inform the bidders whose bids will not be considered of the names of the companies that will have their tender admitted, as well as the reasons why their bids will not be considered, and to inform them in writing as early as possible after contractual conclusion. This also applies to candidates who received no information regarding the rejection of their tender, before notification of the award decision was given to the tenderers concerned.

According to § 134 para. 2 of the German Competition Act, a contract may only be concluded 15 calendar days after the information required in para. 1 has been sent. In the event that information has been sent by electronic means or by fax, the deadline is shortened to 10 calendar days. The period begins the day after the information has been sent by the procurer; the date of access for the bidder and candidate concerned is not relevant.

The procurement contract will be awarded on the signing of the contract or award after expiry of the period specified in § 134 of the German Competition Act. In the upper threshold range, the award will be made promptly or within 30 days after the award notification is published on the TED portal.

9 Contractual implementation and management

The procurement process has not yet ended with the tendering and awarding process. Contract execution is a critical process phase as it often causes the problems that make procurement projects proliferate in terms of both time and cost. For this reason, continuous and seamless communication between the contract partners in the spirit of risk management is essential. This should include the set quality and performance criteria, but also warning signs and indicators for the early detection of problems. This requires a high degree of flexibility and readiness on both sides, as the implementation of innovative solutions is often an iterative and exploratory process.
Contract management generally includes the implementation of all activities defined in the context of project management, such as development, management, adaptation, execution and updating of contractual matters. Contract controlling plays an important role in achieving the agreed targets. During the project period, particular attention must be paid to changes in legislation. All parts of the contract and changes should be documented without gaps.

10 Completion of project and lessons learned

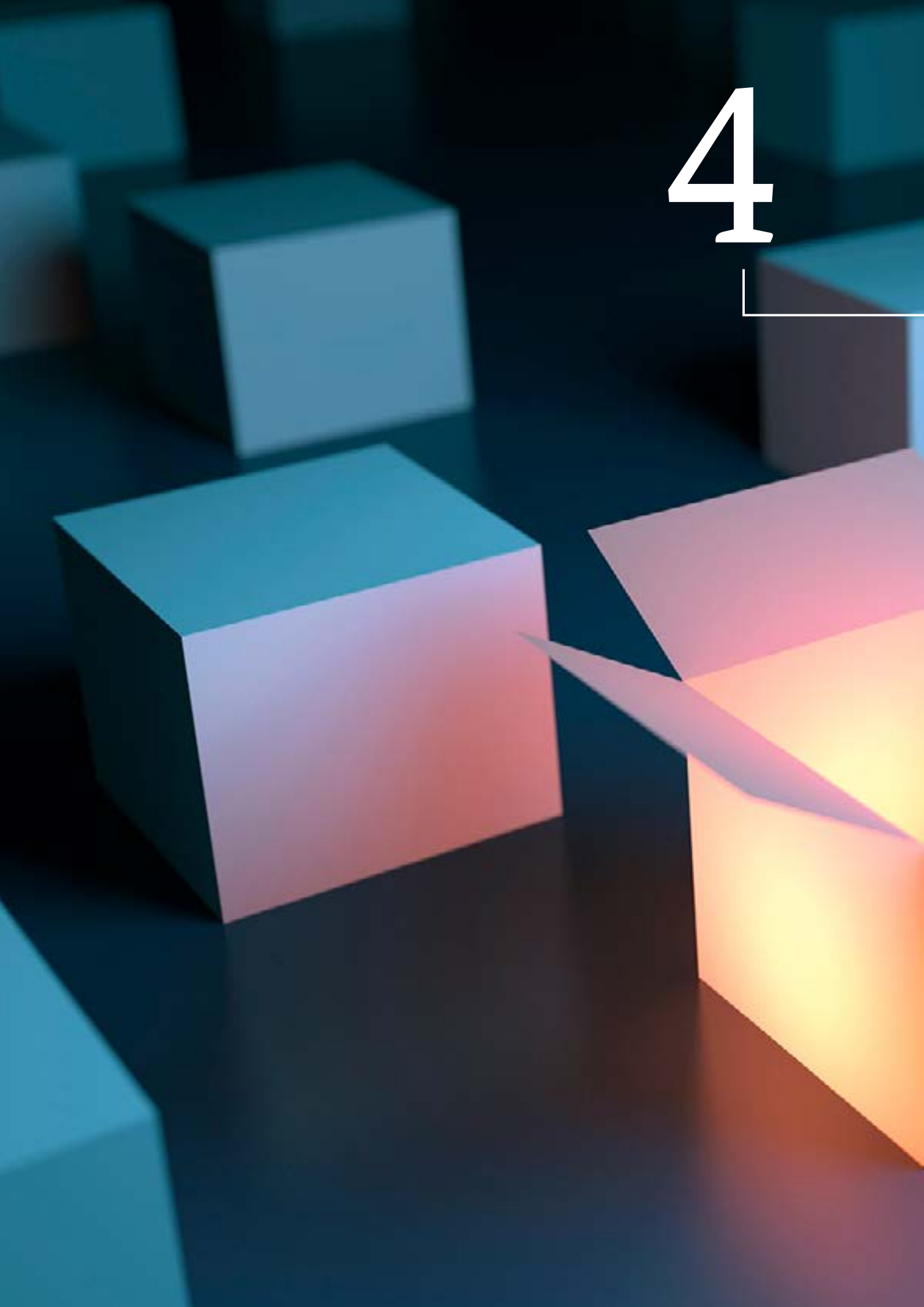
At the end of each project there is the development of potential for improvement for future procurement activities, as well as positive appreciation and communication of successes. This is a particularly relevant measure in terms of transparency.

The findings documented during the course of the project were to be discussed and evaluated during a final discussion with the project team and the supplier. As well as potential for improvement, points that were perceived as particularly positive should be recorded. The aim is to enable continuous improvement from project to project and to disseminate this experience among suppliers and procuring entities. For example, have there often been any questions from the supplier or problems due to the lack of important information? These notes provide approaches for optimising early notification.

By establishing precise and comparable evaluation procedures and key figures, it is possible to quantify the success of the project and to continually expand the level of knowledge in purchasing innovation. This clearly supports the goal to realise a constantly learning and innovative procurement organisation.
Particularly advantageous in this context is the development of examples of good practice and reference cases that may be communicated to the media. Through a successful project with relevant experience and results, other procurers may be made aware of the positive aspects of procurement of innovation. Good examples stimulate imitation. Besides, the strategic decision-maker gains the legitimacy to promote and demand further innovative projects.

The overarching target should be to gather this experience and share it with all the relevant bodies. This reduces redundancies in innovation procurement and increases efficiency.

The KOINNO project also pursues this goal by compiling such good examples and recommendations and publishing them on the website www.koinno-bmwi.de/en. Besides, BMWi and BME each year award prizes for particularly innovative procurement and a particularly innovative procurement process. The prizes awarded in recent years are documented on the website mentioned.

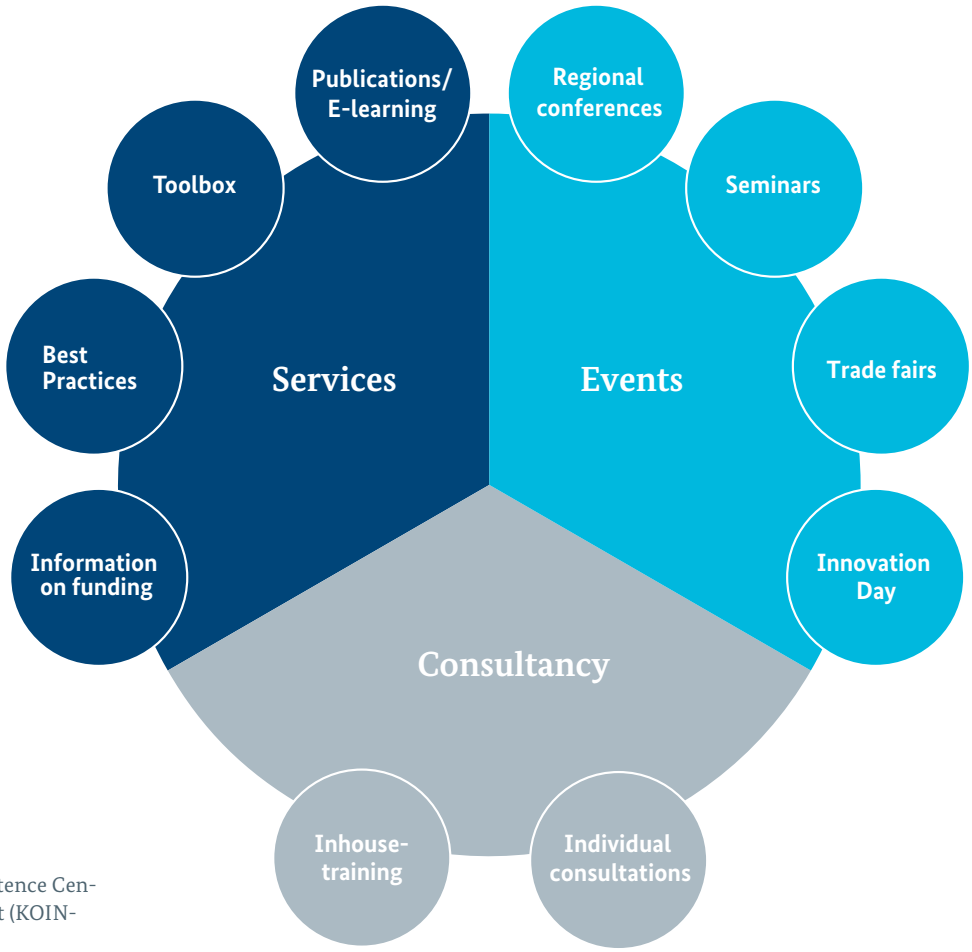


4

The Competence Centre for Innovative Procurement (KOINNO) of the Federal Ministry for Economic Affairs and Energy

KOINNO – Your partner in all questions regarding the topic of public procurement

The aim of the Competence Centre is continual enhancement of innovation-oriented public procurement in Germany and to increase the share of procurement of innovation in the total volume of public procurement in Germany. For this KOINNO offers comprehensive information as well as solid assistance with questions about innovative procurement. All services are free of charge.



Img. 10: Services of the Competence Centre for Innovative Procurement (KOINNO)

- Advising all public procurement bodies on general issues in the area of innovation-oriented procurement
- Individual advice on the design of new awarding processes, on the procurement of innovation, and on European funding
- Collection of good examples, publications and additional information
- Event presentation for network building and knowledge development, creation of further training opportunities
- Use of social media and various communication channels to sensitise and motivate procurement officers and strategic decision-makers

Specifically, the service portfolio comprises the following elements:

- **Counselling**
  KOINNO not only supports all contracting authorities, strategic decision-makers and interested companies with events or general information, but also supports them with procurement projects. This covers all legal and economic issues surrounding innovative procurement. When analysing and realising individual procurement processes, the KOINNO team always focuses on increasing innovation orientation. This is done on the basis of agreed and underlying objectives.

- **Inhouse training**
  The training content will be tailored to the specific needs of different procurement organisations and may include innovation-oriented procurement, including negotiated procedures, functional tenders, innovation partnerships, or variant solutions. The target is to implement the aspect of innovation permanently in all procurement activities.

- **Practical examples**
  Practical examples for the successful procurement of innovation or design of innovative procurement processes provide insight into various solutions and provide incentives for future projects. It is clear that innovation-oriented public procurement is feasible and meaningful even today.

- **Information material**
  The Competence Centre provides comprehensive information on the range of topics of innovative procurement. To this end, the KOINNO team is constantly developing new materials in order to be a point of focus for innovative procurement officers and promote changes with extensive expertise.

- **EU liaison**
  There are some programmes at EU level for the promotion of innovation as well as research and development projects in public procurement bodies. The "EU liaison for public procurement of innovation" within the framework of KOINNO provides a comprehensive insight and solidly supports the promotion of funds through:

  - Individual initial consultation
  - Assessment of project ideas
  - Funding recommendations
  - Information workshops
  - Application coaching
  - Application check
  - Strategic syndication
  - Search for international partners

- **Innovation prize**
  The BMWi and the BME annually award prizes for exemplary services by contracting authorities in the procurement of innovation and the design of innovative procurement processes.

All events and services are free of charge.

- **Innovation showcases**
  These one-day congresses provide a comprehensive insight into certain commodity/product groups (such as e-mobility, ICT) or concrete process topics (such as e-procurement). In addition, they serve network extension and are interactively designed to stimulate discussion.

- **Regional events**
  The regional events inform about the achievements and experiences of the Competence Centre's innovative procurement. A supplemental insight into the work of the Competence Centre for Sustainable Procurement and EU liaison. The regional connection is established through selected practical lectures by contracting authorities from the respective region.

- **Strategic dialogues**
  As part of the strategic dialogues, various senior experts and procurement experts from the public and private sectors can exchange views directly. The target is mutual learning. It is also possible to invite various potential, selected bidders in the strategic dialogues.

- **Seminars**
  The one- to two-day seminars provide a quick overview of the respective topic (such as strategic procurement, current public procurement law, procurement of ICT). These are particularly useful when employees are new to procurement or when new project challenges are pending.

- **Webinars**
  As a digital event, the KOINNO webinars provide a brief insight into different topics. Experienced speakers present current developments in public procurement law, innovative procurement instruments, or dealing with the KOINNO-Toolbox.

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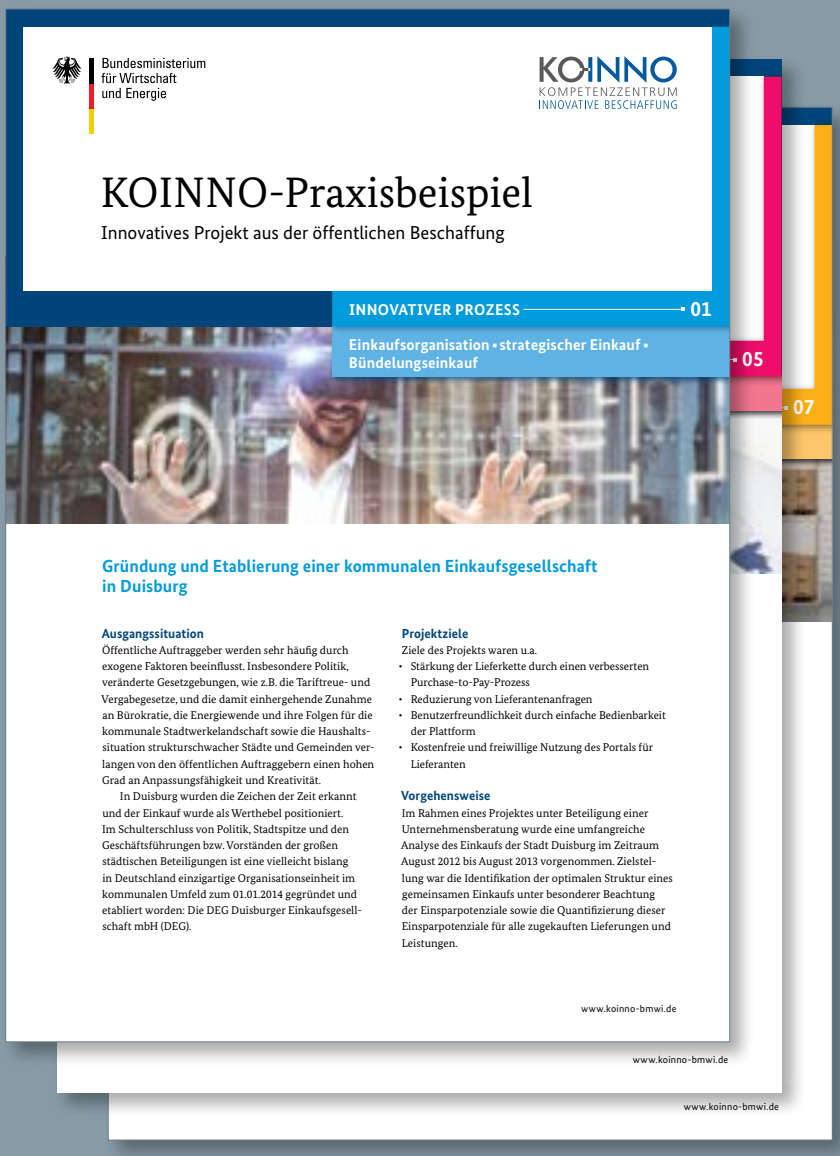
Practical examples

Supplement here the information on public procurement of innovation with practical experiences of the most diverse contracting authorities. All practical examples may be found at (in German) www.koinno-bmwi.de.



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