European Commission

Germany

Country Profile

THE STRATEGIC USE OF PUBLIC PROCUREMENT
FOR INNOVATION IN THE DIGITAL ECONOMY SMART 2016/0040

COUNTRY PROFILE
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Germany

1. NATIONAL POLICY FRAMEWORK FOR INNOVATION PROCUREMENT

Governance and legal framework

Public procurement in Germany is regulated by a complex **regulatory framework** that comprises delegated acts, such as ordinances and rules by non-governmental bodies, and allows for a substantial level of autonomy to the German federal states. The main pieces of legislations in the field of public procurement are the German Act against Restraints of Competition (*Gesetz gegen Wettbewerbsbeschränkungen – GWB*), which provides general principles of public procurement law and regulates public procurement in the Country and the Procurement Regulation for Public Works (*Vergabe- und Vertragsordnung fur Bauleistungen – VOB/A-EU*) which regulates public contract awards in the area of public supplies and services. Other relevant regulations are the German Regulation on the award of public contracts by entities operating in the transport, water and energy supply as well as the transport sectors (*Sektorenverordnung - SektVO*), the German Public Ordinance for Contracts in the fields of Defence and Security (*Vergabeverordnung Verteidigung und Sicherheit - VSVgV*), which transposed the Directive 2009/81/EC, and the German Regulation on the award of concession contracts (*Konzessionen Konzessionsvergabeverordnung - KonzVgV*).[1] These laws transposed the EU Directives on Public Procurement (i.e. 2014/23/EU, 2014/24/EU and 2014/25/EU) in 2016.

The **procurement system is highly decentralised** due to Germany's administrative structure. Public procurement activities are distributed among three different governmental levels (federal, regional and local level). Public procurement is mainly awarded at local level. Approximately 58% of all procurement activity is done at the municipal/local level, 30% at regional/federal states level (Länder), and only 12% is performed at federal level.[2]

The main institution responsible for public procurement policy is the **Federal Ministry of Economy and Energy (BMWi)**, which decides on the principles of public procurement and drafts primary legislation. In the area of public works procurement, the **Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB)** is the institution in charge, whereas the **Federal States Committee** on public procurement ensures regular exchanges among Federal States on the latest aspects of procurement policy and practices, including procurement in the context of EU Funds.

Other key actors in German procurement system are the **Public Procurement Committees**, a forum for stakeholders from federal state and local administrations, public-private organisations, and the private sector. They contribute to the drafting of procurement rules taking into account private and public sector needs. The **German Committee for Supplies and Services Tendering and Contract Regulations (DVAL)** works on procurement rules for supplies and services, while the **German Committee for Construction Tendering and Contract Regulations (DVA)** contributes to procurement rules for public works.

Germany has four central purchasing bodies at the federal level, which are thematically specialised. The **Central Purchasing Body of the Ministry of the Interior** procures for all federal agencies, manages the main e-procurement platform and carries out other supportive functions. The **Federal Institute for Materials Research and Testing** concludes framework agreements for specific technical product groups. The **Federal Office for Equipment, IT Technology, and Use of the German Armed Forces** is responsible for procurement for the German military. Finally, the **Federal Financial Directorate Southwest (BFD Südwest)** procures for the tax administration. There are central purchasing bodies at regional level as well.

Concerning the implementation of innovation procurement policy, the key actor at national level is the **Competence Centre for Innovative Procurement** (**KOINNO**), which aims at being an information pool of knowledge and experience in public procurement. KOINNO is in charge of a number of activities, including awareness raising, individual consultancy and international networking, and it offers specific consultancy services to public institutions at all levels on innovative management and on innovative products. KOINNO is managed by the non-profit **Association for Supply Chain Management, Procurement and Logistics (BME)** on behalf of the **Federal Ministry for Economic Affairs and Energy (BMWi)**, and it has an annual budget of around €1.5 million.

Finally, another active actor on innovation procurement implementation is **ZENIT GmbH**, a Public Private Partnership owned by the State of North Rhine-Westphalia, a consortium of banks and an association comprising some 180 enterprises. ZENIT is particularly active in promoting and supporting innovation procurement regionally, as it implements part of the KOINNO competence centre mandate. In addition, since January 2017 ZENIT GmbH manages the EU Contact Point for innovation procurement throughout Germany, offering consulting services for proposers in Pre-Commercial Procurement and Public Procurement of Innovative Solutions as well as networking calls under HORIZON 2020 and other EU funding programmes.[3]

Unlike the State of North Rhine-Westphalia, in other German regions there is little or no structured policy support framework for innovation procurement.

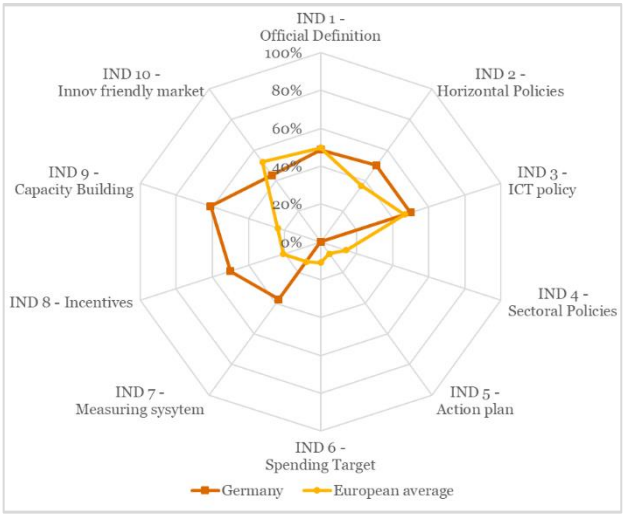
[1] These rules only apply to procurement contracts with values above a specific threshold. For further information, see https://gettingthedealthrough.com/area/33/jurisdiction/11/public-procurement-2017-germany/

[2] Estimation of the "Bundeswehrhochschule München" in 2016.

[3] https://stars-pcp.eu/zenit-gmbh

Innovation Procurement Policy Framework Benchmarking (2018)

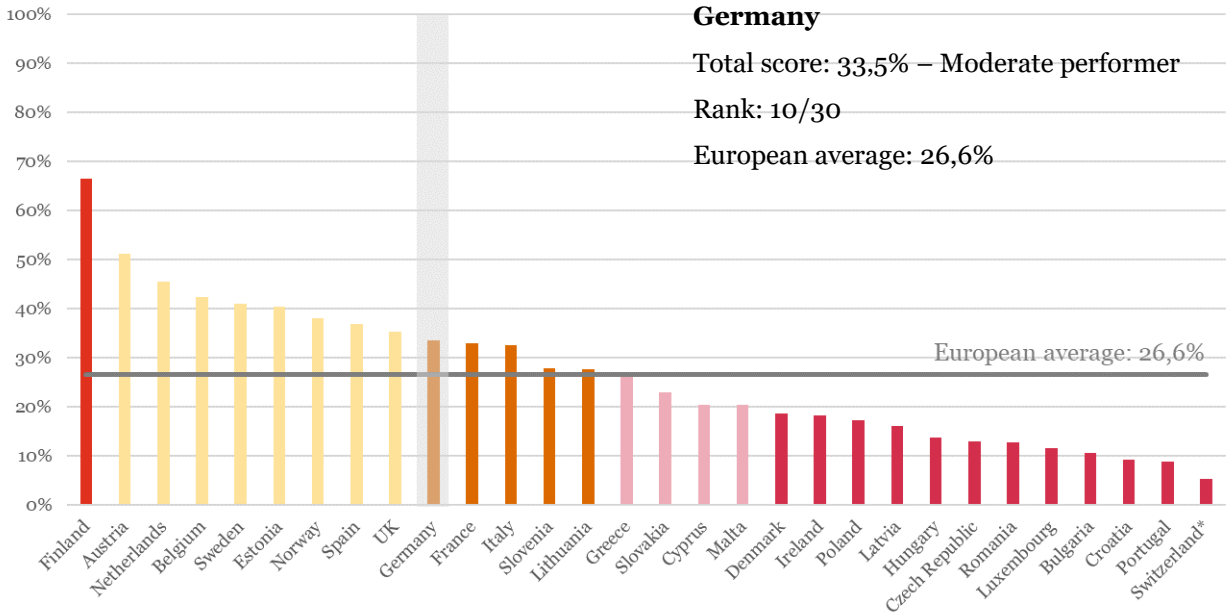
In the benchmarking of national innovation procurement policy frameworks across Europe, Germany is at the 11th position of the overall ranking with a total score of 33,5%. From the 30 countries analysed, Germany is among the group of moderate performing countries in implementing a mix of policy measures that are conducive for mainstreaming innovation procurement. Having implemented 33,5% of the policy measures to roll-out a comprehensive policy framework for innovation procurement, there is however still a significant reinforcement of the policy framework needed in Germany to reach its full 100% potential.



Strengths: Germany has recognised the strategic importance of innovation procurement in the national policy frameworks for public procurement, innovation and R&D, but in most regions and local authorities this is not the case yet. Germany has a good set of capacity building and assistance measures, however still at limited scale.

Weaknesses: Absence of a dedicated action plan, target and monitoring system, limited financial incentives for procurers to engage in more innovation procurements, lack of strategic support for innovation procurement in horizontal and sectorial policies, wider/less focused definition of innovation procurement. Lack of IPR policy in public procurement that encourages innovation.

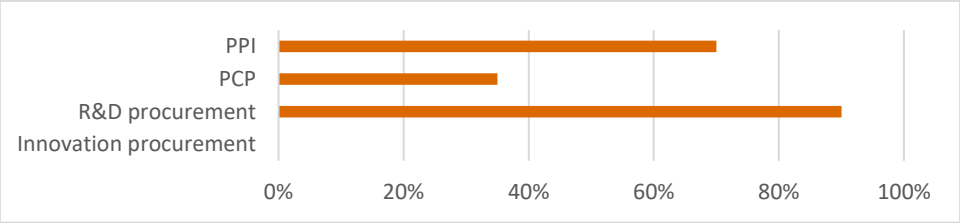
Overall ranking



Overview per indicator

Indicator 1 – Official definition

Total score	49%	*European Average*	50%



German public procurement law does not provide an official definition of innovation nor of innovation procurement. The definition of innovation procurement in national guidance documents is not in line with the EU definition. German public procurement law provides a definition of R&D in line with the EU definition but only applicable to procurers in the defence sector. For non-defence procurers, German public procurement law identifies R&D via the CPV codes and provides a clear legal basis for implementing PCP and PPI (although without explicit definitions for PCP and PPI). Despite of the lack of clear definitions there is a legal basis for the development of innovation procurement, Pre-Commercial Procurement (PCP) and Public Procurement of Innovative solutions (PPI). Therefore, the total score of the indicator is 49%.

Despite having transposed the EU directive 2014/24/EU, the regulatory framework governing the German public procurement system does not provide a definition for **innovation procurement** nor for **innovation**. As the German public procurement law does not provide any legal definition, the total score for this sub-indicator is 0%. The guide on innovation procurement published by the BMWi and KOINNO defines innovation as "*the implementation of a new or significantly improved product (good or service), or process, a new marketing method in business practices, workplace organisation or external relations*.[4] The innovation procurement definition however includes two components: demand of innovative products and services resulting from the procurement process and the innovative and efficient design of procurement processes and the organisation of the public procurement procedure (so called innovative procurement which implements process improvements such as e-procurement but does not procure any innovation). This definition is applicable countrywide but not coherent with the EU definition (which does not include the second component).

The definition of **R&D procurement** is only provided under art. 4(3) of the German Public Ordinance for Contracts in the fields of Defence and Security. It defines R&D as "*all activities, including basic research, applied research and experimental development which includes activities based on existing knowledge obtained from research and practical experience, in view of the production of new materials, products or devises, commissioning acts of new processes, systems and services or improving considerably those that already exist.*" Experimental development includes devices that allow you to demonstrate the performance of a new concept or technology in a suitable or representative environment. This definition is only applicable in the defence sector (i.e. not countrywide) and is in line with the EU definition. For non-defence procurers, there is no full-sentence definition of R&D, but the law identifies R&D via the CPV codes for fundamental research, applied research and industrial development in line with the EU public procurement directives definitions of those CPV codes. Therefore, the total score of this sub-indicator is 90%.

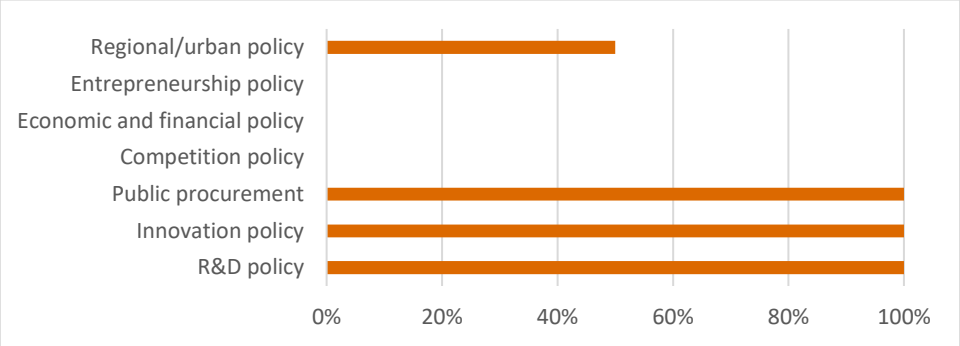
With regard to **PCP**, the law transposed the exemption for R&D services unless (a) the results are the exclusive property of the client for his use in the performance of his own activities; and (b) the service is completely remunerated by the client. Therefore, while no definition of PCP exists, the legal framework provides the legal basis for implementing PCP for all types of public procurers in the country. The total score of this sub-indicator is 35%.

Again, the German legislation does not provide a definition of **PPI**, However, the Act Against Restraints on Competition (GWB) introduced innovation-related criteria within the procurement decision making process in 2009 and also established that public procurers could include innovation-award criteria in addition to social and environmental aspects in the service specifications.[5] Further steps in the introduction of innovation procurement into national legislation were carried out within the reform of public procurement law as part of a bureaucracy reduction initiative. The legislation officially established innovation as part of the procurement decision making process, allowing public procurers to include it in their service specification (art. 97(3) of the German Act Against Restraints of Competition). The legal basis is applicable to all public procurers in the country and is coherent with the EU definition. The BMWI / KOINNO national guidance document also defines PPI in line with the EU definition. Therefore, the score for this sub-indicator is 70%.

[4] https://www.bmwi.de/Redaktion/DE/Publikationen/Wirtschaft/koinno-innovative-oeffentliche-beschaffung.pdf?__blob=publicationFile&v=16
[5] http://www.gesetze-im-internet.de/gwb/__97.html

Indicator 2 – Horizontal policies

Total score	50%	*European Average*	36%



In Germany innovation procurement is embedded in three policies, namely Regional policy, public procurement and R&D&I policy. The total score of this indicator is 50%.

Innovation procurement was anchored in **public procurement policy** through the introduction of innovation related criteria in the German Act Against Restraints of Competition.

In the area of **Regional Policy**, Innovation procurement is not a specific objective of the country's regional policy, but at regional level, it is worth mentioning that in North-Rhine Westphalia region the use of innovation procurement is envisaged in the context of Green Public Procurement.[6] Also, ZENIT GmbH won in 2015 the tender of the regional government of North Rhine-Westphalia of the project named "Brückenbildung". The aim of the project was to create synergies between the Structural Funds in North Rhine-Westphalia and the H2020 programme. This is a first and unique project in the EU, which tries to create synergies. This project can determine the identification of potential follow-up PPI actions to be financed.[7]

In the area of **R&D&I, innovation** procurement is the most important demand-side policy measure to achieve the objectives identified in the **High-Tech-Strategy Germany**. It includes as a measure to bring more ideas into the market, which is one of the five pillars defined in the Strategy.[8]

Indicator 3 – ICT policies

Total score	50%	*European Average*	47%

In the area of ICT, Germany's **Digital Agenda 2014-2017**[9] identified 7 main areas where action is needed to achieve its overall objectives. One of these areas is public administration, where giving public procurement a more innovative focus is seen as a key principle to implement the digital transformation of the sector, in particular "*to reduce the reliance of government IT on closed global IT and cloud computing ecosystems and to support innovative companies and boost competition in the IT sector*". Germany's **Digital Strategy 2025** (adopted in 2016) does not refer specificaly to innovation procurement either. Because of only indirect references to innovation procurement, the score for this indicator is 50%.

Indicator 4 – Sectorial policies

Total score	0%	*European Average*	14%

Action plans and policy framework of sectorial policies in Germany do not explicitly recognize innovation procurement as a strategic priority. Therefore the total score for this indicator is 0%.

As specified above, indirect links to programmes and projects implemented in the context of the ESIF fund, are likely to have an indirect impact to sectoral policies. The use of PCP and PPI tools within this programme is expected to play a role. An example are the measures implemented to increase energy efficiency in public buildings, where the use of innovative procurement procedures had a positive effect on regional economic structures and markets.[10]

Indicator 5 – Action plan

Total score	0%	*European Average*	8%

Germany does not have a stand-alone Action Plan for innovation procurement.

[6] E.g. http://www.newtrade-nrw.de/fileadmin/files/downloads/Lageanalyse.pdf
[7] https://stars-pcp.eu/zenit-gmbhh
[8] https://www.bmbf.de/pub_hts/HTS_Broschure_Web.pdf
[9] http://www.bmwi.de/EN/Topics/Technology/digital-agenda.html
[10] http://www.eubuero.de/media/content/Synergien/Ergebnisbericht_PCPPPI_Workshop_BF.pdf

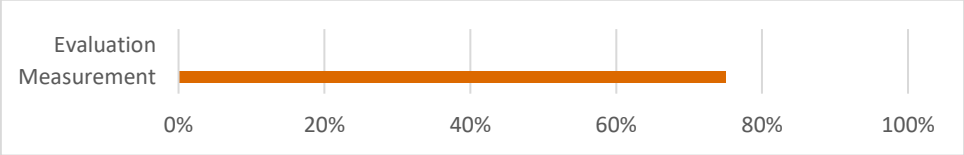
Indicator 6 – Spending target

Total score	0%	*European Average*	11%

In Germany there is no specific spending target for innovation procurement.

Indicator 7 – Monitoring system

Total score	38%	*European Average*	13%



Germany does not have a structured monitoring system yet to measure the expenditure on innovation procurement and evaluate the impacts of completed innovation procurements, because of the high level of fragmentation of public procurement activities in the country, which obstacles an effective centralized monitoring system.

However, in the last years some improvement has been made which may foster measuring activities in the field of innovation procurement. Specifically, the *Bundeswehrhochschule München* carried out in 2016 **a pilot measurement** of public procurement in the country.[11] The results of this exercise estimated that, of an overall €350 billion of public procurement, €40/50 billion, i.e. 11/14% of the overall budget, was spent on innovation procurements.

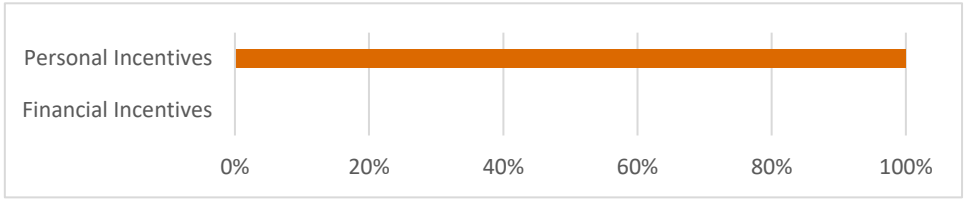
In addition, the **new regulation for statistical data** (§98 and §99 of the German Act against Restraints of Competition – Gesetzgegen Wettbewerbsbeschränkungen – GWB) requires information of all procurement activities. For procurement under the EU threshold, volume, kind of procedure and product group is required. For procurements above the EU threshold, the indication of different categories such as innovation and environment are required as well. The presence of such a pilot measurement and the adoption of a mandatory country wide indicator for innovation procurement justifies a 75% score in the "measuring" sub-indicator.

As a consequence, an electronic system for the collection of relevant data is being developed by the service company INIT in cooperation with the Federal Statistics Office, aiming to calculate the total spending of public procurement at country level (including the municipal and state procurement). In addition, this initiative aims to categorise the spending into a number of clusters, including innovation procurement, to provide progress indicators. First results of this initiative are expected in 2020.

Due to the absence of system to evaluate the impacts of completed innovation procurements, the overall score of the indicator "monitoring system" is 38%.

Indicator 8 – Incentives

Total score	50%	*European Average*	22%



Regarding **personal incentives**, the Association for Supply Chain Management, Procurement and Logistics (BME) and the Federal Ministry for Economic Affairs and Energy (BMWi) are jointly holding, through KOINNO, an **"Innovation prize once a year"** ("*Innovation schafft Vorsprung*").

The aim is to award top performances among public-sector contracting authorities in the procurement of innovative products and the design of innovative procurement processes. Those eligible to apply for the prize are administrative authorities at national, state and local level and also public companies and institutions. Manuscripts on either innovative procurement processes or procuring innovations are accepted. In recognition of the specific challenges involved in driving innovation in public institutions, the winners of the competition will each receive a voucher for consulting services worth € 10,000 (€ 10,000 for the category "Procurement of Innovation" and € 10,000 for the category "Innovative Procurement Processes").[12]

Due to the absence of **financial incentives**, the total score of the indicator "incentives" is 50%.

[11] https://rio.jrc.ec.europa.eu/en/file/11255/download?token=h7oOt2OW
[12] https://www.koinno-bmwi.de/en/koinno/innovation-prize/

Indicator 9 – Capacity building and assistance measures

Total score	61%	*European Average*	24%

	Existence	Connection with relevant international/ EU initiatives	Free of charge	Covering all aspects and types of innovation procurement	Available and applicable to all public procurers in the country	Mainstreaming Innovation procurement at a large scale	Sub-total score
Central website	√	√	√	√	√		83%
Good practices	√	√	√	√	√		83%
Trainings/workshops	√		√	√	√		67%
Handbooks/guidelines	√	√	√	√	√		83%
Assistance to public procurers	√	√	√	√	√		83%
Template tender documents							0%
Coordination / pre-approval							0%
Networking of public procurers	√		√	√	√		67%
One-stop-shop/ competence centre	√	√	√	√	√		83%

Germany carries out several measures to develop skills and competences on innovation procurement, especially through the **Competence Centre for Innovative Procurement** (**KOINNO**). One of the main goals of the Centre is to act as "one-stop-shop" providing of knowledge and experience in public procurement. Specifically, KOINNO carries out the following activities:

- **Central website** in Germany for innovation procurement related information
- **Consultancy services** to public institutions at all levels on innovative management and on innovative products (in-house trainings and individual consultations for procurers);
- **Events organisation** (regional conferences, trade fairs, innovation venues, strategic dialogues);
- **Networking activities**, both at national/local level and internationally;
- Free of charge **assistance to procurers**, offering legal, technical and economic assistance in the innovation procurement process and supporting public clients in setting up or restructuring their purchasing departments to become more efficient, innovative and strategic;
- **Information and awareness raising** through training, seminars and e-learning sessions, dissemination of **good practice examples**[13], publication of **guides and toolbox**[14], information on subsidies;
- **Prize for innovation procurement** (cf. Indicator "Incentives").

The German procurement system is highly decentralised. Therefore, there are also capacity building initiatives at local and regional levels. Two good examples can be the action of ZENIT GmbH in North Rhine-Westphalia[15] and initiative "*Cost reduction and professionalization through inter-municipal allocation center in the district of Groß-Gerau*" (2013)[16]:

- **ZENIT GmbH** has been active as a competence centre for public procurement of innovation in **North Rhine-Westphalia** (NRW) since 2012. It assists the Ministry of NRW to integrate PCP and PPI into the innovation and research strategy of the Land NRW and gives in-depth consulting services to public procurers. Furthermore, ZENIT GmbH offers support in cross-border innovation procurements between German procurers and procurers from other EU countries.
- The **Kreis Groß-Gerau** (district of small communities and cities around the city of Gerau) has implemented a central procurement body for ten member communities and the district itself. The introduction of public procurement enabled substantial annual savings in a six-figure range. This was achieved thanks to the know-how of dedicated procurement personnel. The model aims at increasing the uptake of green and innovative procurement, which otherwise would not be possible for small communities on their own.

[13] https://www.koinno-bmwi.de/informationen/praxisbeispiele/
[14] KOINNO has published a Guide on "Innovative Public Procurement", outlining challenges, actors and framework conditions of innovation procurement, and a number of guides and fact-sheets on different relevant topics, such as the Guideline "Strategic Supplier Management", the "Toolbox" on innovation procurement, and others. All publications are available free of charge in KOINNO's website at https://www.koinno-bmwi.de/en/information/publications/
[15] https://stars-pcp.eu/zenit-gmbh
[16] https://www.koinno-bmwi.de/fileadmin/user_upload/praxisbeispiele/KOINNO-Praxisbeispiel_innovativer_Prozess_Interkommunales_Vergabezentrum_Gross_Gerau.pdf

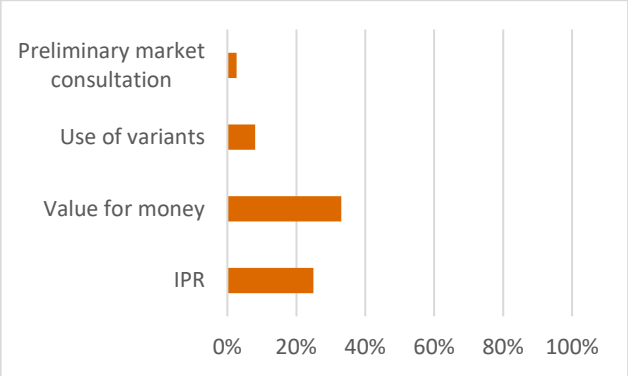
KOINNO organises **networking** between national procurers. Under the impulse of ZENIT, the region North Rhine-Westphalia also signed a cooperation agreement with the Netherlands and the Flemish region (Belgium) to network public procurers of their different countries to stimulate cross-border innovation procurements. As this does not concern all procurers in Germany, the score on the sub-indicator networking remains 67%.

On the basis of the evidence collected, Germany scores 61% in this Indicator. In fact, all activities investigated are put in place, with the exception of the provision of template tender documents and the coordination/pre-approval of the implementation of innovation procurements. The interconnection with relevant EU level initiatives is for some measures also still lacking or not fully exploited yet. It is worth noting that the score reflects the fact that the capacity-building activities performed are not designed and/or resourced to mainstream innovation procurement at large scale in the country across all areas of public sector activity.

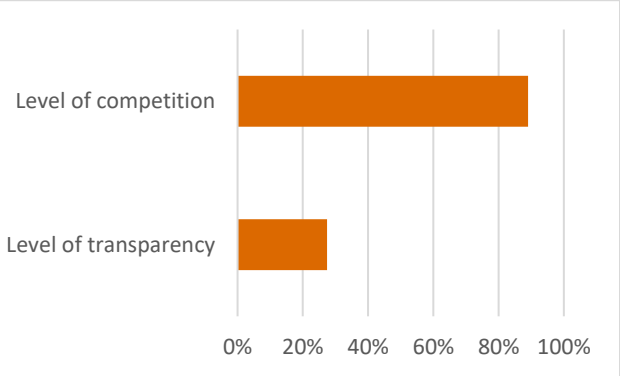
Indicator 10 – Innovation friendly public procurement market

Total score	38%	*European Average*	44%

I - Specific techniques to foster innovation in public procurement



II – Openness of national public procurement market to innovations from across the EU single market



This indicator synthetises to what extent the national public procurement market encourages the implementation of Innovation procurement. The indicator is composed of two sub-indicators that show evidence on

I. **the use of specific techniques to foster innovation in public procurement in Germany**
II. **the openness of the national public procurement market to innovations from across the EU single market.**

With regard to sub-indicator I, Germany shows the following evidence:

a. **IPR default regime:** The score for this sub-indicator is 25%, which is below the 38% European average, because there is no default scenario for the distribution of IPR rights between procurers and suppliers in Germany. The German law, general terms and conditions for government contracts and guidelines on public procurement do not define how IPRs are best dealt with in procurement contracts. It is left to the individual responsibility of each German procurer to specify clearly the IPR allocation for the procurement in its tender documents so that it stimulates innovation and is compliant with IPR/copyright law. The German copyright act[17] assigns untransferable copyright (moral rights) to the creator. If the procurer wants to use the copyright created by (sub)contractors in his procurement he should require in the tender specifications the transfer, assignment, or license of the economic rights (e.g. usage, licensing, publication, modification, reproduction rights) at equitable payment. Copyright law protects also scientific work, software and database rights.

b. **Use of value for money award criteria**: According to the Single Market Scoreboard, 33% of the procedures were awarded on criteria that are not based on lowest price only. This is below the European average of 42% and below the 80% satisfactory level set out in the EU single market scoreboard.

c. **Use of variants**: Germany has allowed the use of variants in 8% of the procedures. This percentage is far above the European average of 4%.

d. **Preliminary Market Consultation:** Germany has used Preliminary Market Consultations in the 3% of the procedures. The percentage for this sub-indicator is significantly below the European average of 9%.

Based on this evidence, the score for sub-indicator I is 17% which is below the European average of 23%. This is mainly due to the below average performance on adopting a default IPR regime that fosters innovation, on the use of value for money award criteria and on the use of preliminary Market Consultation.

With regard to sub-indicator II, Germany shows the following evidence:

e. **Level of competition**: The level of competition is 89% which is above the European average 84% but still below the 93% satisfactory level set by the EU single market scoreboard. Both sub-indicators score above European average: proportion of procurements with more than one bidder is 81% (which is however still below the satisfactory 90% level set by the EU single market scoreboard), whereas the proportion of procurements for which a call for bids was used reaches a satisfactory level of 97%.

[17] http://www.wipo.int/wipolex/en/text.jsp?file_id=474263

f. **Level of Transparency**: The level of transparency is 27% which is below the European average 45% and below the 66% satisfactory level set by the EU single market scoreboard. All three sub-indicators score below the European average: TED publication rate (1%), percentage of procurements without missing call for bids information (78%) and without missing buyer registration numbers (3%). This makes it hard for suppliers across the EU internal market to find out which public procurer on the German market wants to buy what.

Based on this evidence, the score for sub-indicator II is 58% which is below the European average of 65% and below the satisfactory level 79% set by the EU single market scoreboard. This is mainly due to the scarce transparency of the national public procurement system.

Based on the scores for sub-indicators I and II, the total score for the indicator "innovation friendly public procurement market" is 38% which is below the 44% European average. This score is explained firstly by the fact that both the use of specific techniques to foster innovation and the openness of the German procurement market to innovations from across the EU single market is below the European average. Indeed, the country has not yet adopted a default IPR regime in public procurement that fosters innovation and value for money criteria are still significantly underused in public procurements. Secondly, the country has shown a below-average use of Preliminary Market Consultation. In addition, although the level of competition is reaching the satisfactory level, transparency is scarce and below the European average.

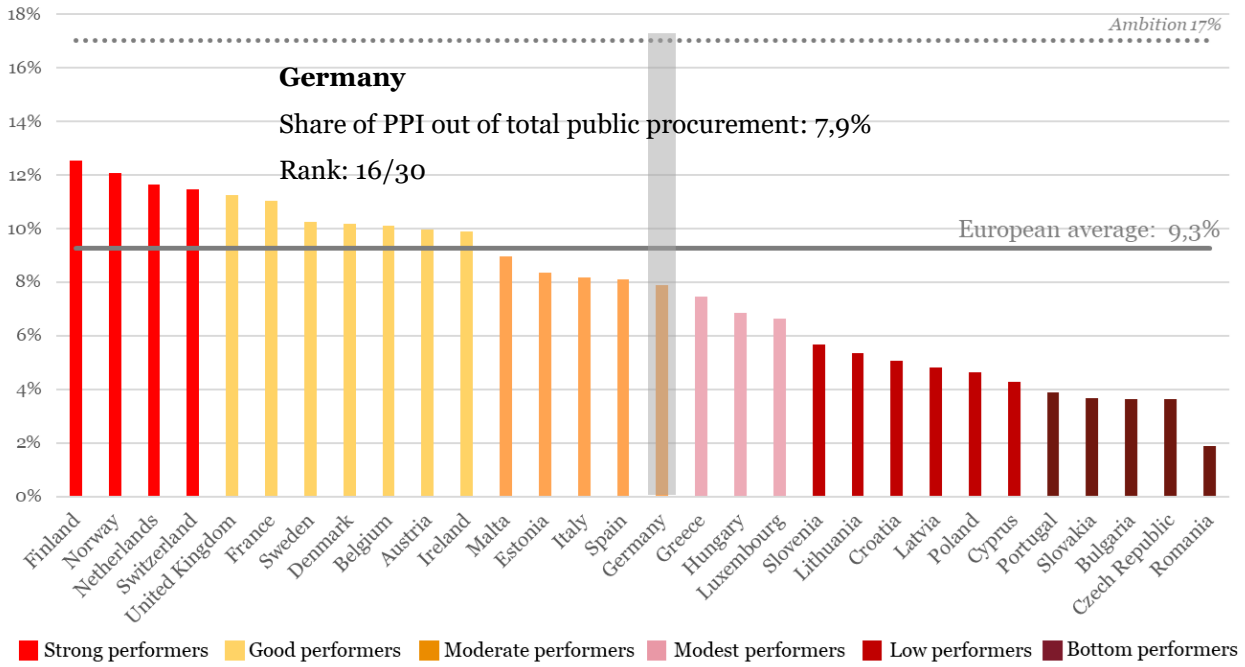
2. INVESTMENTS ON PUBLIC PROCUREMENT OF INNOVATIVE SOLUTIONS

Investment benchmarking (2018)

The investment benchmarking contains two parts: the benchmarking of German investments on public procurements of innovative solutions (PPI) and the benchmarking of German investments on public procurements of innovative solutions that are based on Information and Communication Technologies (ICT-based PPI). Data about defence procurement is excluded from all figures and graphs, for confidentiality reasons.

Ranking of investments on public procurement of innovative solutions (PPI), excl. defence

With 7,9% of public procurement devoted to purchasing innovative solutions in the classical and utilities sectors (i.e. € 47,9 bn), **Germany ranks 16th** in the benchmarking of investments on public procurement of innovative solutions (PPI)[18] across Europe. Germany falls within the group of **moderate performer**s, slightly above the European average of 9,3%.[19] **A significant increase of investments in PPI is still needed** to reach the level of 17% of public procurement devoted to purchasing innovative solutions that would enable a full-speed modernisation of the German public sector.[20] When taking into account also PPI in the defence sector Germany moves up to the 15th position.



The **main factors**[21] explaining Germany's moderate performance in the PPI benchmarking are:

Adoption of transformative versus incremental innovations

The share of PPI investments that is spent on the adoption of **transformative innovations** in Germany (85%) is in line with the European average (84%). Large portions of PPI investments are devoted to the adoption of innovative solutions that are 'new to the market' (53% of PPI) and significantly improved' solutions (32% of PPI). The share of **incremental innovations** (15%), which includes the purchase of 'existing solutions that are used in a new way or in a new sector' as well as 'innovative combinations of existing solutions' is also in line with the European average (16%).

[18] Public procurement of innovative solutions (PPI) includes procurements that purchase innovative solutions (without buying the prior development of such solutions) as well as procurements that purchase both R&D and the resulting innovative solution. To the contrary, it does not include public procurements that purchase only R&D. The total amount of innovation procurement in the country – namely the amount of R&D procurement plus the amount of PPI – is therefore higher than the amount of PPI presented in this benchmarking. The EC's estimation of the amount of R&D procurement across Europe and the total amount of innovation procurement (R&D + PPI) across Europe can be found here on the EU webpages.

[19] All European averages presented in the sections on investments on PPI and ICT-based PPI are weighted averages of the 30 countries falling within the scope of the study (27 Member States, Norway, Switzerland and the United Kingdom).

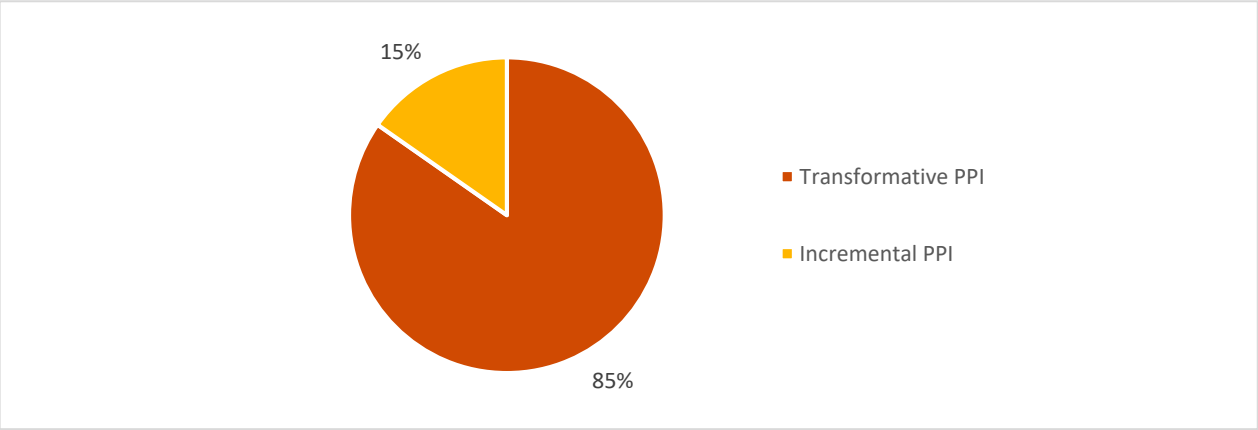
[20] It is estimated that a healthy economy needs approximately 20% of its public procurement to be devoted to innovation – including 3% of R&D procurement and 17% of PPI – to reach a sufficient level of early adopters that are needed to encourage the rest of the market to widely adopt the innovations afterwards (Commission notice on innovation procurement C(2018)3051, based on Bell innovation curve).

[21] The graphs in the section are showing results for each factor as % of the amount of published explicit PPI, except if otherwise indicated

As the share of PPI investments that is spent on transformative innovations is much larger in leading countries, this may be a cornerstone element for Germany to improve its performance on innovation procurement.

Of all transformative technologies, ICTs have the largest impact on public sector modernisation and economic growth because they are key enabling technologies that boost quality and efficiency gains across all domains of public sector activity. **Underinvestment in the adoption of innovative ICTs** is therefore an important factor explaining why Germany is not yet at the level of PPI investment that would allow a full-speed modernisation of the public sector. This aspect is addressed in more detail in the benchmarking of ICT-based PPI investments in the next section.

PPI investments by type of innovation



Investments readiness across different domains of public sector activity

Nearly every domain of public sector activity[22] **in Germany purchased innovation solutions**, except '**Postal Services**'. The shares of PPI investments by different public sector domains out of total PPI investments in the country are **mostly not in line with the European averages**. German investments deviate by more than 3 percentage point (pp) from the European average in 6 out of 11 sectors. The share of PPI investments by German procurers in the '**General public services, public administration and economic and financial affairs**' is significantly below (-21 pp) the European average. The share of PPI investments by procurers in '**Construction, housing and community amenities**' (+12 pp) and in the '**Other**' domain (+12 pp) are significantly above the European average.

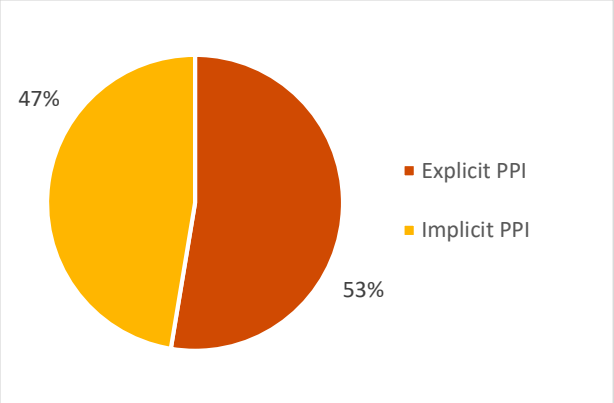
PPI investments by domains of public sector activity

Domain of public sector activity	Germany	European average	Difference (in pp)
General public services, public administration, economic and financial affairs	14%	35%	-21
Public transport	10%	10%	0
Healthcare and social services	18%	21%	-3
Energy	7%	6%	+1
Environment	9%	3%	+6
Construction, housing and community amenities	16%	4%	+12
Education, recreation, culture and religion	9%	5%	+4
Water	1%	4%	-3
Public order, safety and security	3%	8%	-5
Postal services	0%	1%	-1
Other	15%	3%	+12
Total PPI investments	**100%**	**100%**	**-**

[22] The table presenting the breakdown by domain of public sector activity does not reflect the type of solutions that are being procured but the type of public procurer that is buying them. For example, a PPI in which a public transport procurer buys an innovative health solution is classified under the domain of public sector activity "Public transport" and not under "Healthcare and social services".

Risk adverseness in requesting innovations & Openness to unsolicited innovative proposal

Explicit PPI vs. Implicit PPI investments (as % of the total amount of PPI)

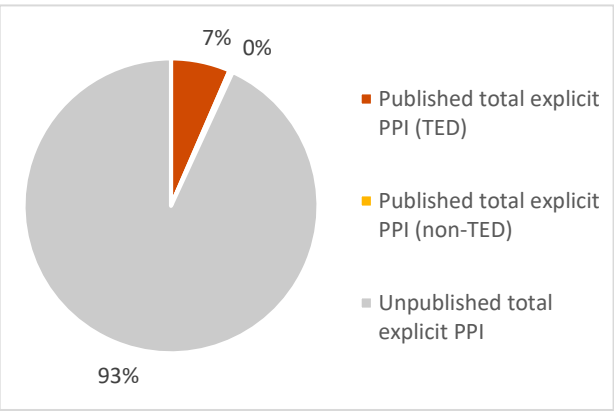


The share of **explicit PPI** investments (when a public procurer explicitly requests an innovative solution in the call for tenders) is consistently higher in Germany (53%) compared to the European average (29%). This indicates that German procurers may be less risk-adverse in requesting innovative solutions compared to the European average.

The share of **implicit PPI** investments (when a procurer does not explicitly request an innovative solution, but the tenderer proposes it on its own initiative in its offer) is significantly lower in Germany (47%) compared to the European average (71%). This indicates that German procurers may tend to be less open to accepting unsolicited innovative proposals from tenderers compared to the European average.

Level of publication of PPI towards potential suppliers

Published PPI vs. Unpublished PPI investments (as % of the amount of explicit PPI)

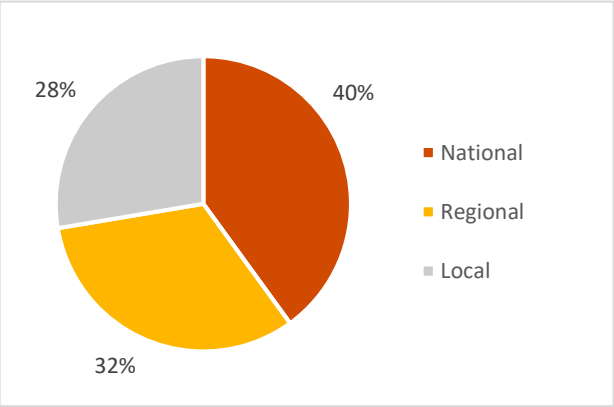


The share of German PPI investments for which call for tenders are published is very low (7%), and considerably below the European average (22%). Both the portion that is **published at European level** in the TED database (7%) and the portion that is **published at national level** (<1%) are below European average (respectively 18% and 5%). The share of PPI investments for which no call for tenders is published in TED or at national level is huge (93%).

By not publishing calls for tenders for PPI procurements widely, **Germany is missing out on potential innovative solutions** that could speed up public sector modernisation, both from German and other European innovative suppliers that are not informed about the German PPI business opportunities.

Investment readiness across levels of public sector activity

PPI investments by level of public sector activity

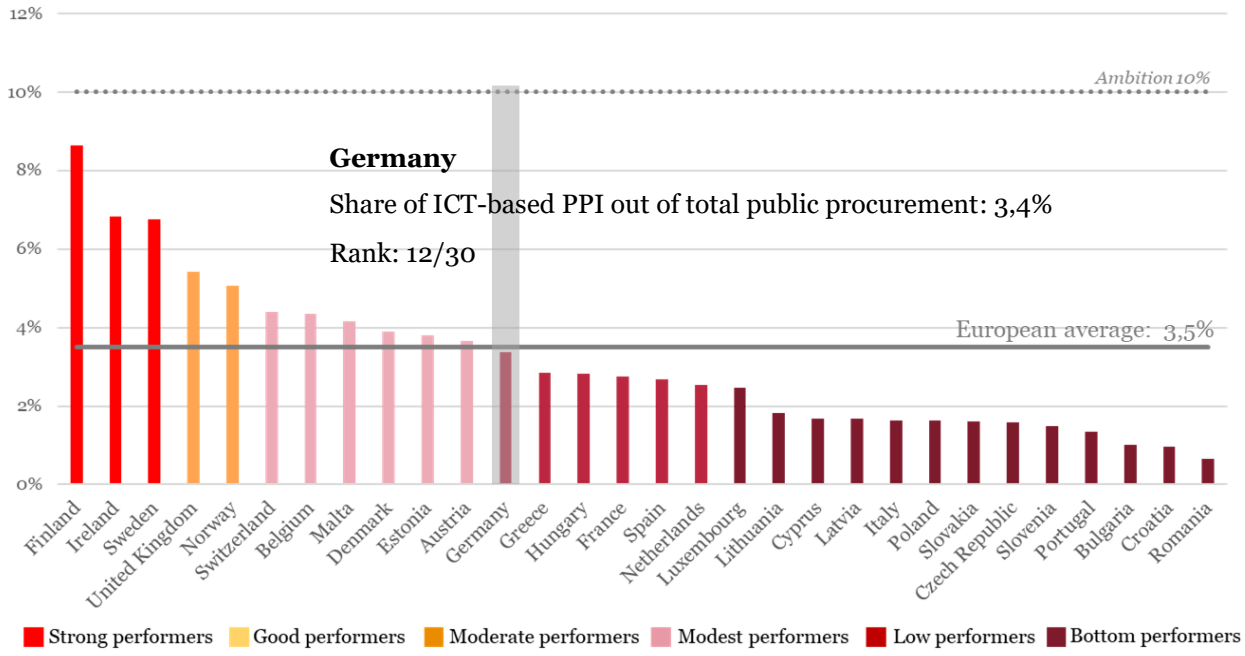


More than one third of the total PPI in Germany is carried out by **large-scale entities at national level** (40%), such as ministries and ICT integrators of governments departments. This is not far from the European average (47%).

Procurers at regional level account for around one-third of the share of PPI (32%), above the European average (24%). **Procurers at local level** account for the smallest fraction of PPI (28%), slightly below above the European average (29%).

Ranking of investments on public procurements that adopt innovative ICT-based solutions (ICT-based PPI), excl. defence

The German public sector shows a **low level of performance** in terms of the adoption of innovative solutions that are based on ICTs (ICT-based PPI investment). With € 0,7 bn or 3,4% of total public procurement invested in innovative ICT-based solutions, **Germany ranks 12th** in the benchmarking of ICT-based PPI investments, below the European average (3,5%). In terms of the share of public procurements of innovative solutions (PPI) that is invested in ICT-based solutions (43%). Germany performs slightly above the European average (38%). **A considerable increase of investments in buying innovative ICT-based solutions is thus needed** to reach the level of devoting 10% of total public procurement and 60% of public procurement of innovative solutions in the country to the purchase of ICT-based innovations, which would enable Germany to fully capitalise on the transformative power of ICT to speed up public sector modernisation and to boost economic growth and competitiveness.[23]

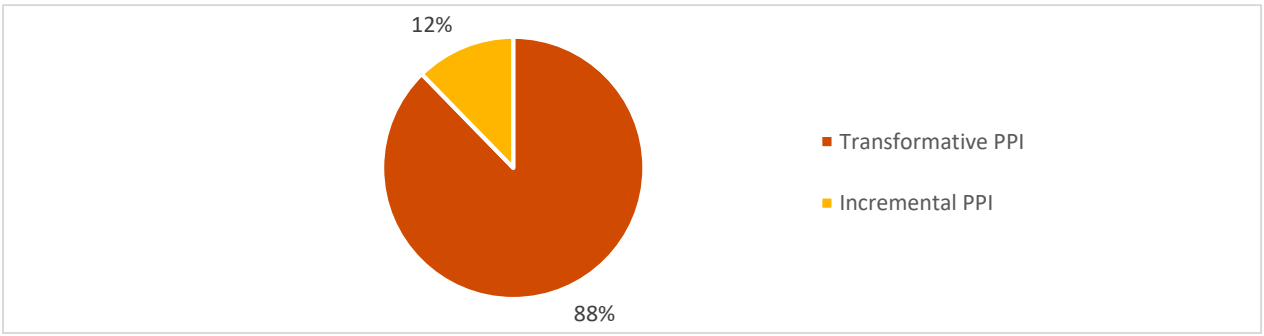


The **main factors**[24] explaining Germany's low performance in the ICT-based PPI benchmarking are:

Adoption of transformative versus incremental ICT-based innovations

The share of ICT-based PPI investments that is spent on the adoption of **transformative ICT-based innovations** in Germany (88%) is above the European average (79%). More than half of ICT-based PPI investments is spent on the adoption of innovative solutions that are 'new to the market' (55%) and a significant share also on 'significantly improved solutions' (33%). The share of PPI investments spent on the adoption of **incremental ICT-based innovations**[25] (12%) is below the European average. As the total amount of investments in ICT-based innovations in Germany is below European average, the country still needs to step up considerably its investments in the adoption of both transformative and incremental ICT-based innovations to move from low to strong performer.

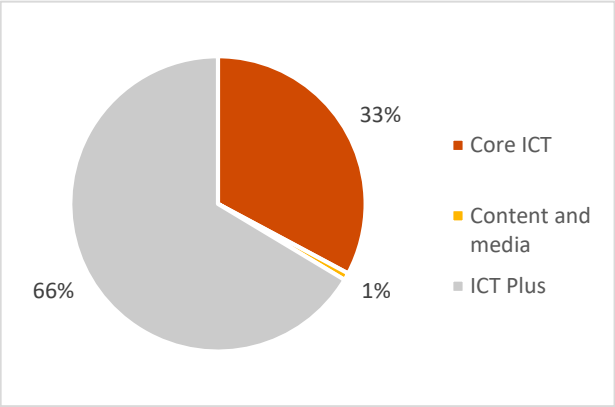
ICT-based PPI investments by type of innovation



[23] It is estimated that for a healthy economy to fully capitalise on the adoption of innovative ICT solutions to optimise public sector modernisation and its impact on economic growth and competitiveness, two thirds of PPI – or 10% of total public procurement – should be spent on innovative ICT-based solutions (in leading economies, ICT is responsible for two thirds of productivity / economic growth and two thirds of PPI are also allocated to the adoption of innovative ICT based solutions).
[24] The graphs in the section are showing results for each factor as % of the amount of published explicit ICT-based PPI
[25] See definitions above.

Adoption of innovations from different ICT sub-sectors

ICT-based PPI investments by ICT sub-sector



Germany invested mainly in the adoption of innovations from the '**ICT Plus' sub-sector**[26] (66%), above European average (44%).

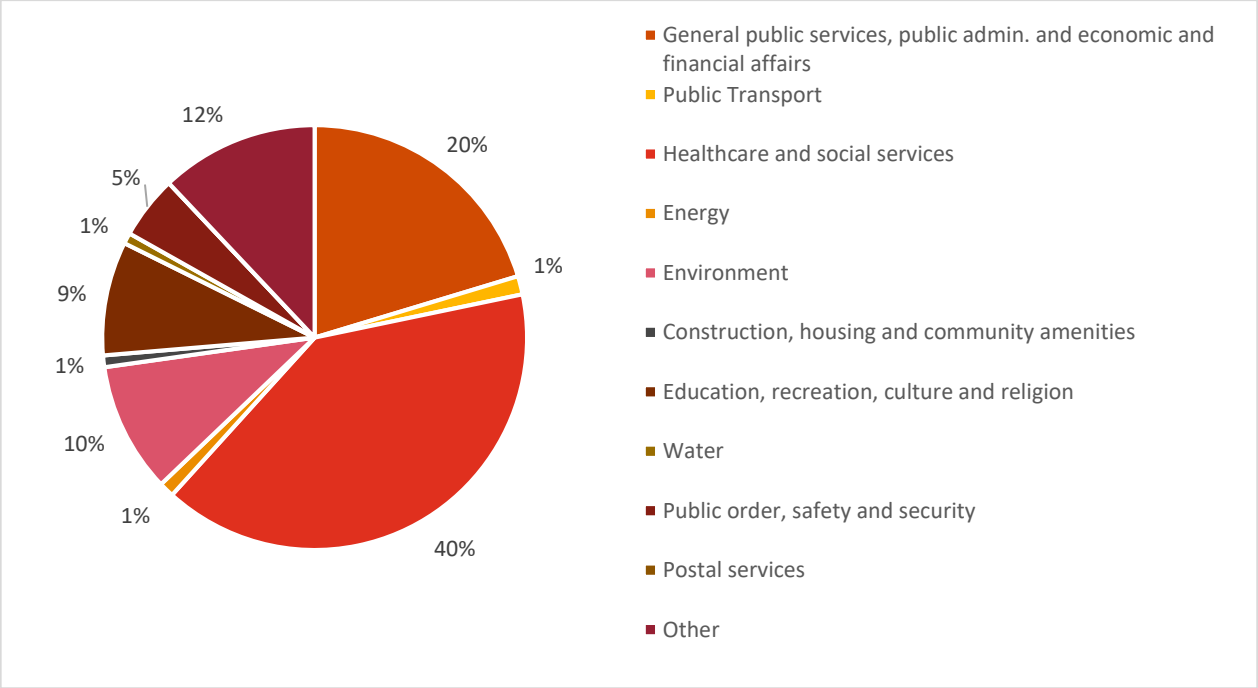
Germany invested to a lesser extent in the adoption of innovations from the so-called '**Core ICT' sub-sector** (33%), which is below the European average (55%).

German investments in adopting innovations from the '**Content & Media' sub-sector** were marginal (1%), which is in line with the European average (2%).

Investments readiness across different domains of public sector activity

Nearly every domain of public sector activity in Germany purchased innovation ICT-based solutions, except in the 'Postal Services' domain with zero ICT-based PPI. The highest share of ICT-based PPI is made by procurers that operate in the domain of '**Healthcare and social services**' (40% against a 30% European average) followed by procurers in the '**General public services, public administration and economic and financial affairs**' domain (20% which is above the European average of 16%).

ICT-based PPI investments by domains of public sector activity

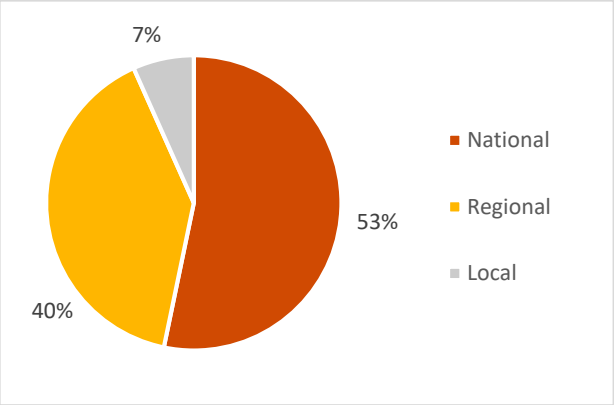


[26] The three ICT sub-sectors are:

- Core ICT: includes IT and telecom hardware and software that are used for mainstream IT and telecommunication purposes
- Content and Media: includes printed and audiovisual hardware and software
- ICT Plus: includes ICT hardware and software for ancillary purposes such as measurement and detection applications in different vertical markets like health, transport, security markets etc.

Investment readiness across levels of public sector activity

ICT-based PPI investments by level of public sector activity



National level procurers account for 53% of ICT-based PPI, quite below the European average (69%).

Procurers at regional level account for the highest share of the ICT-based PPI at sub-national level (40%), more than double the European average (21%). To the contrary, **local procurers** account for only a modest fraction of ICT-based PPI (7%), which is still above the European average (10%).

Digital Single Market