

# DIGITAL TRANSFORMATION AND E-GOVERNMENT IN PUBLIC SECTOR

DIGITAL ECONOMY MARKET INTELLIGENCE REPORT AND  
BENCHMARK ANALYSIS IN GERMANY AND AUSTRIA



MARKET INTELLIGENCE BY  
**CAPITALS Circle Group GmbH (CCG)**

<http://www.capitalscirclegroup.com>

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# CHAPTER I.

## GERMANY'S MAIN MACRO-ECONOMIC INDICATORS AND TRENDS





## INTRODUCTION

Germany's economy shows a stable upward trend. Business climate & confidence remains good and solid. External uncertainties or the recent political uncertainty after the recent elections with the difficulty to build a new government coalition, does not have yet any negative impact on the business confidence. According to projections, Germany's economic growth will close positive in 2017 & following years too. One of the areas of focus and priority of the German Government is the innovation & digital transformation of the German economy, especially in the German public sector with the gradual implementation of e-Government strategy, the project digital administration 2020 and the consolidation of all IT/ Software systems at federal level to be at the forefront and as priority for the next Government. Although the German ICT Industry is the largest in Europe, it has further potential of strong growth and it is estimated, that its contribution to German GDP will grow further following years.

Present in German IT market are all global players, vendors, integrators and service providers. There is strong competition in IT market both in private and public sector, but due to the large size of the market, the volume and value of the projects and due to the digital transformation in the public sector too, further growth potential is estimated and there is

market space for more good market players. Despite the big steps in digitalization last years, all indicators and statistics show that although the German private economy is among the most innovative ones in Europe and in the world and has some of the best technology leaders in various segments, Germany as a country and especially its public sector is not a leading nation regarding e-Government and digitalization in public sector. Just a few years ago Germany decided to design and implement a national digital e-Government strategy and started seriously to implement the digital transformation in public administration. It is also since recently, that started the digital consolidation in public sector, which will not only improve the public digital services and will bring many new digital projects in upcoming years but also will boost the German economy further.

An engagement in the German market is promising, since it is a large market, well paid, stable, with still a lot of projects to come in the public sector, which stayed behind in comparison to other developed countries in digitalization the past years. More IT and software projects are expected next years. The market entry in Germany and the market midterm and long-term presence needs careful, serious, and long-term strategy, adaptation to local practices and business ethics.

# CHAPTER II.

## INTRO TO GERMANY'S DIGITAL AND E-GOVERNMENT STRATEGY IN PUBLIC SECTOR



## 2. INTRO TO GERMANY'S DIGITAL AND E-GOVERNMENT STRATEGY IN PUBLIC SECTOR

### 2.1. DIGITAL AGENDA 2020, DIGITAL ADMINISTRATION 2020, NATIONAL E-GOVERNMENT STRATEGY 2020

#### THE DIGITAL ADMINISTRATION 2020

The project “**Digital Administration 2020**” was initiated back in 2014 by the Federal Ministry of Interior (a Ministry with a coordination and leading role in digital strategy of the German Government and of the German Public Administration at Federal Level as it will be explained in following chapters in more details). This project is a governmental program for the technological modernization and digitalization of the public administration in Germany. It sets binding standards for the digitalization of the whole public administration at federal level. The principal objectives were to have a more efficient public administration, to have e-Government processes and services simple, fast, and user friendly. Before the Digital Agenda 2020 and the Digital Administration 2020, Federal Government implemented the strategy “Future oriented Administration through Innovation”, the main goal of which was the modernizing of the Federal State Administration, and the improvement of the quality and efficiency of public sector e-Government services. This e-Government program was focused on four important fields of action:

- Enhancement of quantity and quality of the federal e-Government services
- Establishment of electronic collaboration between the Public Administration and the business community
- Introducing electronic identity card (e-ID)
- Developing secure communication infrastructure for citizens, businesses and public administrations.

On May 2010, e-Government Final Report marked the program successfully completed.

#### DIGITAL AGENDA 2020

At political level the Committee Digital Agenda has been established as a permanent Parliament (Bundestag) committee in the last legislative period (2013-2017). This committee is responsible for the drafting or consulting on all legislative proposals, reports and EU relevant documents on the topic of the Digitalization and the Digital Agenda. The committee consists of 16 members from all parties that are currently represented in the Bundestag. The Digital Agenda 2020 sets the basic principles of the digital policy from the



Parliament perspective in coordination with the Government. The responsibility for the initiative is shared between the Ministry of Interior, Ministry of Economics, Energy & Technology and the Ministry of Transport and Digital Infrastructure. The Digital Agenda focuses on seven priority areas, which are:

- Digital infrastructure
- Digital economy and digital working
- Innovative state
- Digital living environments in society
- Education, research, science, culture and media
- Security, protection and trust for society and the economy
- European and international dimensions of the digital agenda

All priority areas are to work towards three overarching goals of Digital Agenda:

- The German innovation potential will be used more effectively to encourage economic growth and employment
- The construction of nationwide comprehensive high-speed networks and promotion of the digital media competence of all generations to improve access and participation to all people
- To improve the security and safety of IT systems and services to strengthen the trust of society and economy

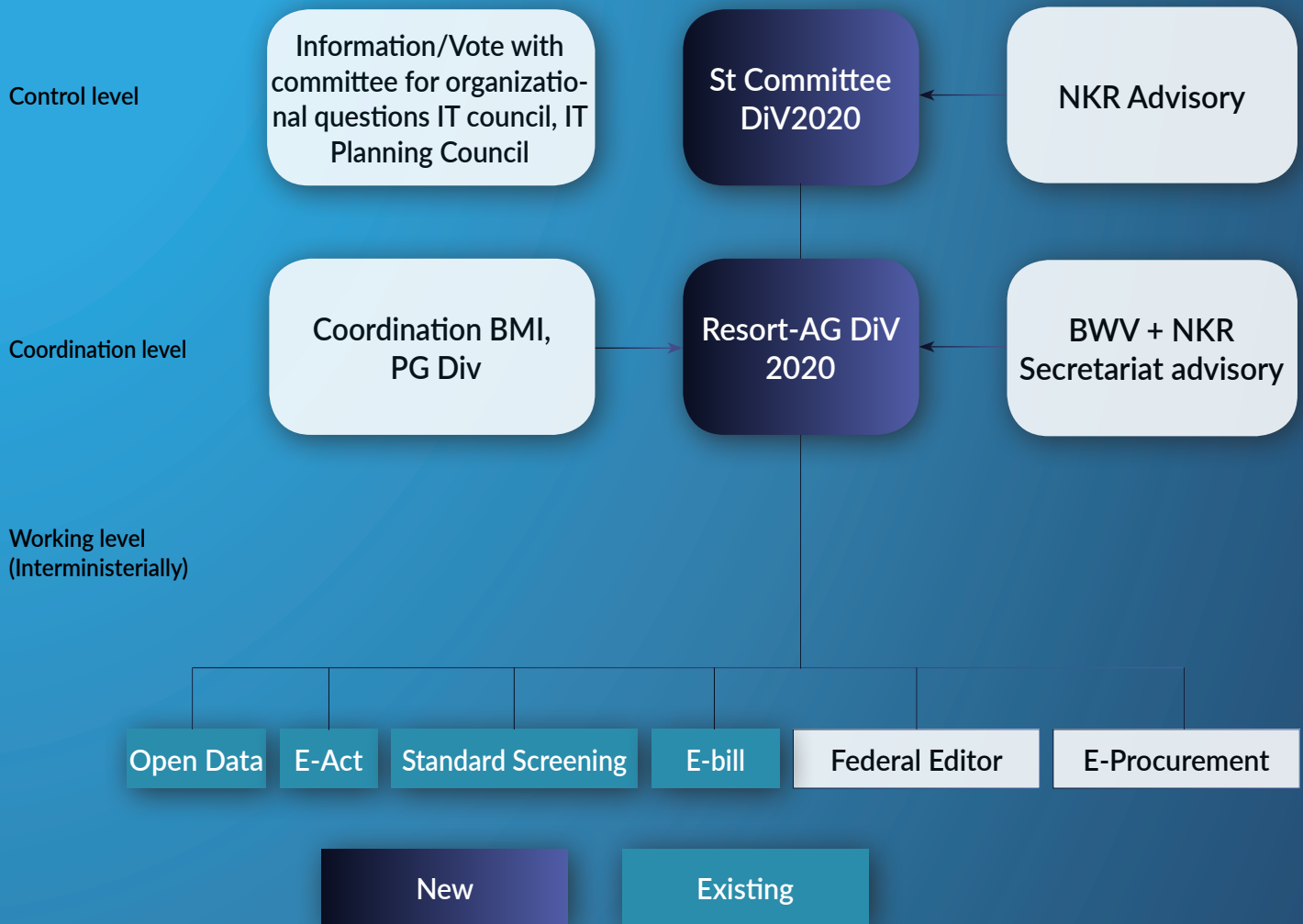
## THE NATIONAL E-GOVERNMENT STRATEGY

The responsibility for Germany's Digital/ e-Government strategy/policy is in reality divided between various bodies but a main coordination role regarding the concept development and the strategic part has at policy level the Ministry of Interior and one of the State Secretaries at the Federal Ministry of Interior and at operational level the Federal Government Commissioner for Information Technology and the IT Council. The Office and the position of the Commissioner of the Federal Government for Information Technology was established at the beginning of 2008, based on the guidelines of the Federal Strategy for IT that time. The Commissioner is responsible for the following activities:

- Elaboration of the e-Government and IT security strategy at federal level
- Development of an IT architecture, IT standards, processes and methods for the Federal IT
- Control the provision of central IT infrastructure at the federal Government.

The Commissioner for IT chairs the Federal IT Council. In addition, he / she has a decision-making role regarding the main laws and regulations related to IT for the Federal Public Administration in the frame of the IT Council. The IT Council is the head principal organ for inter-departmental control at the federal level. In addition to establishing the Office of the Federal Government Commissioner for Information Technology (Commissioner), all government departments have established a position of a Chief Information Officer (CIO). CIOs of all government departments are members in the IT Council, which decides on all strategic IT matters, including Germany's e-Government strategy and IT security.

A graphic reflection of the e-Goivernment Strategy



Source: ZIB, (2017)

# CHAPTER III.

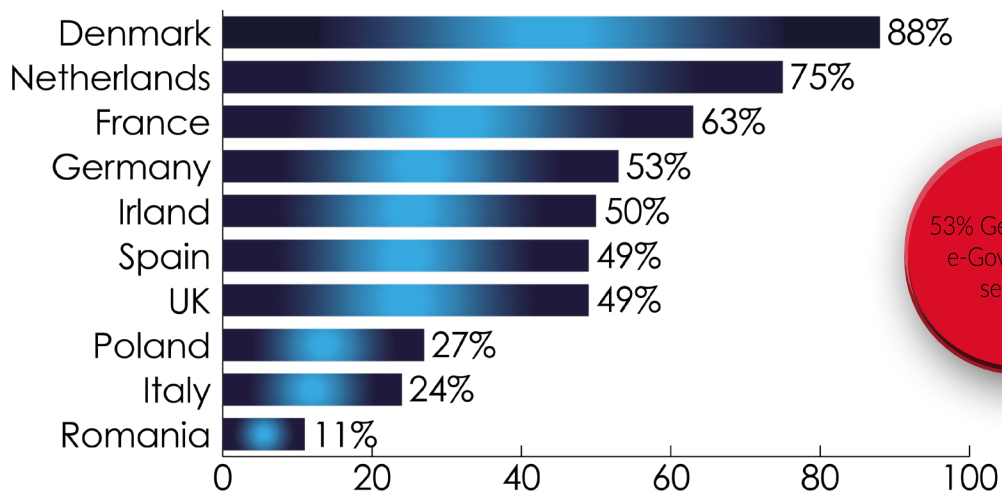
## BENCHMARK ANALYSIS GERMANY VS EU & OTHER COUNTRIES





### 3. BENCHMARK ANALYSIS GERMANY VS EU & OTHER COUNTRIES

#### 3.1. BENCHMARK. USE OF E-GOVERNMENT. GERMANY VS EU STATES



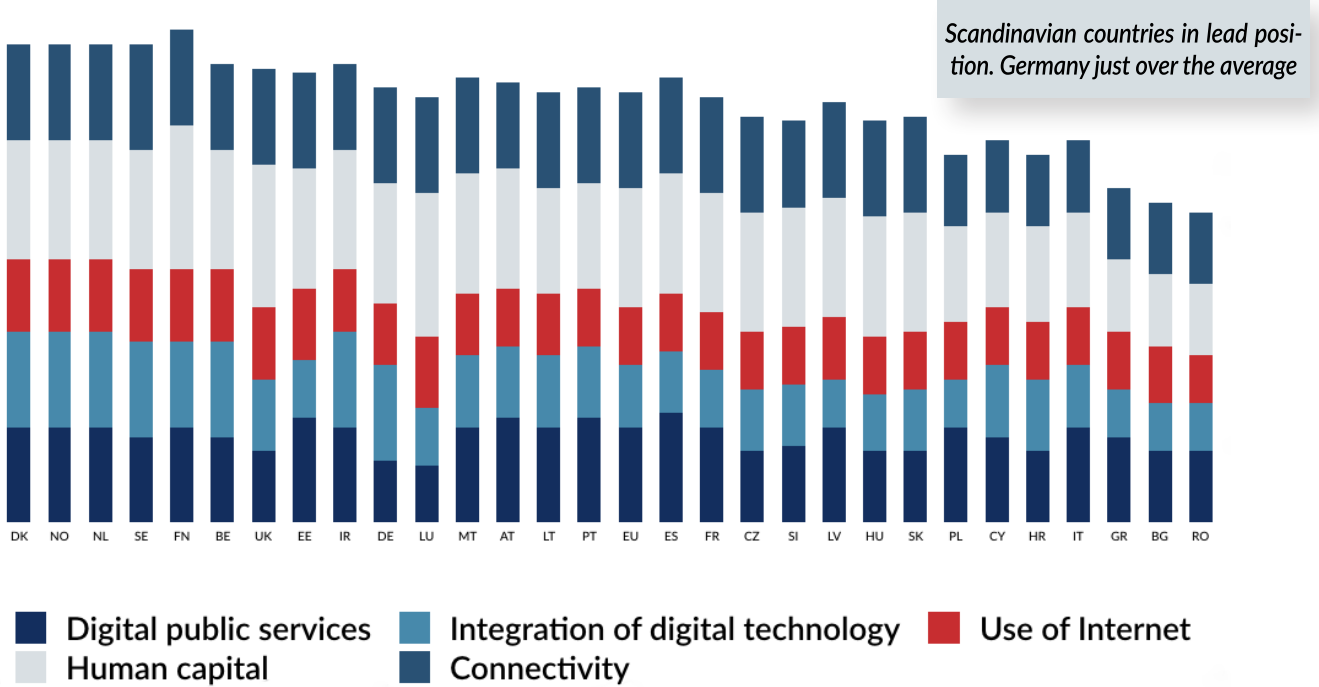
Source: Eurostat, (2015)

According to above graph (Eurostat, 2015) Germany ranks not at the top of EU regarding the use of digital public services by citizens, standing behind in comparison to other countries like Denmark and the Netherlands. Moreover based on the report “Going Digital” about German public sector by Roland Berger (2016),

German public sector institutions have started gradually to take some initiatives towards digitalization in public sector last years. According to data of 2013, German institutions spent around **20 million EUR** on information and communication technologies and IT/software services.

# EUROPEAN UNION DIGITAL INDEX

Measuring digitalization in public sector among EU countries



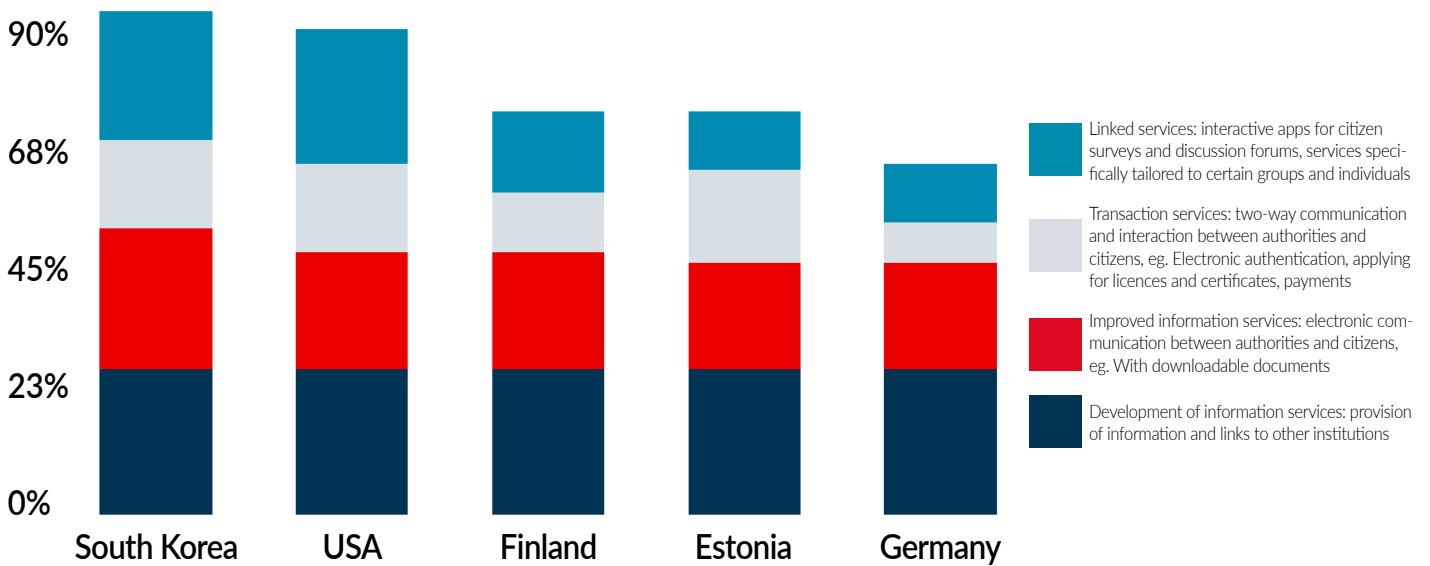
Source: Roland Berger report "Going Digital" and DESI, (2016)

According to above EU countries benchmark and ranking in 5 main aspects of digitisation (digital public services, use of internet by the citizens, connectivity, integration of digital technology, human capital),

Germany ranks above EU average but not in leading position. In the top positions, regarding all above topics rank Scandinavian countries, then the Netherlands, followed by Belgium, UK.

## GLOBAL BENCHMARK-QUALITY OF GERMAN E-GOVERNMENT SERVICES

Benchmark-Quality of German e-government services



Source: UN EGI report e-Government in Germany (2016)

According to above statistical reflection of global benchmark regarding the quality of e-Government services (linked services, transaction services improved information services), Germany lacks in com-

parison to other industry and developed countries. South Korea, USA, Finland, Estonia have the lead and rank better than Germany.

# CHAPTER IV. PUBLIC AUTHORITIES COMPETENT FOR E-GOVERNMENT AND IT IN PUBLIC SECTOR



# CHAPTER V. OTHER RELEVANT STAKEHOLDERS AND INITIATIVES



# CHAPTER VI. PROCUREMENT, PROCESS & PURCHASE FOR IT







## 6. PROCUREMENT, PROCESS & PURCHASE FOR IT

### 6.1. E-PROCUREMENT

**E-Vergabe-Online.de** is the leading online platform for all main IT relevant public sector tenders where citizens and companies can search for bids and tenders in Germany.

### 6.2. PROCUREMENT PROCESS FOR IT SERVICES/SYSTEMS AT FEDERAL AND STATE LEVEL

The public sector procurement process is supported since recently by the Federal Authority for Public Purchasing for IT from the first till the last step as single one stop shop. It leads:

- The **tendering of framework contracts** for hardware, software, information and communication technology as well as IT services and IT-related services (ICT) in the direct federal administration.
- The preparation of an **annual framework contract roadmap**.

The strategy concept of **IT procurement bundling** is a significant result of 5 subprojects (TP5):

- I. **The project „IT-Consolidation Bund“**
- II. **e-Procurement for IT – e-Purchasing Public**

**Information Portal for IT:** [https://e-beschaffung.bund.de/DE/Home/home\\_node.html](https://e-beschaffung.bund.de/DE/Home/home_node.html)

- III. **e-Procurement portal:** <https://www.evergabe-online.de/start.html?0>
- IV. **The central portal of Sustainable Purchasing Process for all States**
- V. [http://www.nachhaltige-beschaffung.info/DE/Home/home\\_node.html](http://www.nachhaltige-beschaffung.info/DE/Home/home_node.html)
- VI. **The Purchasing House of the Federal Government**
- VII. [http://www.nachhaltige-beschaffung.info/DE/Home/home\\_node.html](http://www.nachhaltige-beschaffung.info/DE/Home/home_node.html)

### THE PROJECT „IT CONSOLIDATION BUND“

The objectives of consolidating information technology of the federal government are to guarantee information security, maintain sovereignty and control of IT itself, respond in a flexible way to innovative technological trends, guarantee an efficient, economic operation, stable and sustainable operation to remain an attractive employer for IT professionals. The data of the federal administration must be

widely protected and protected against misuse. The IT consolidation is expected to include three lines of action for 2022:

1. **Operating consolidation.**

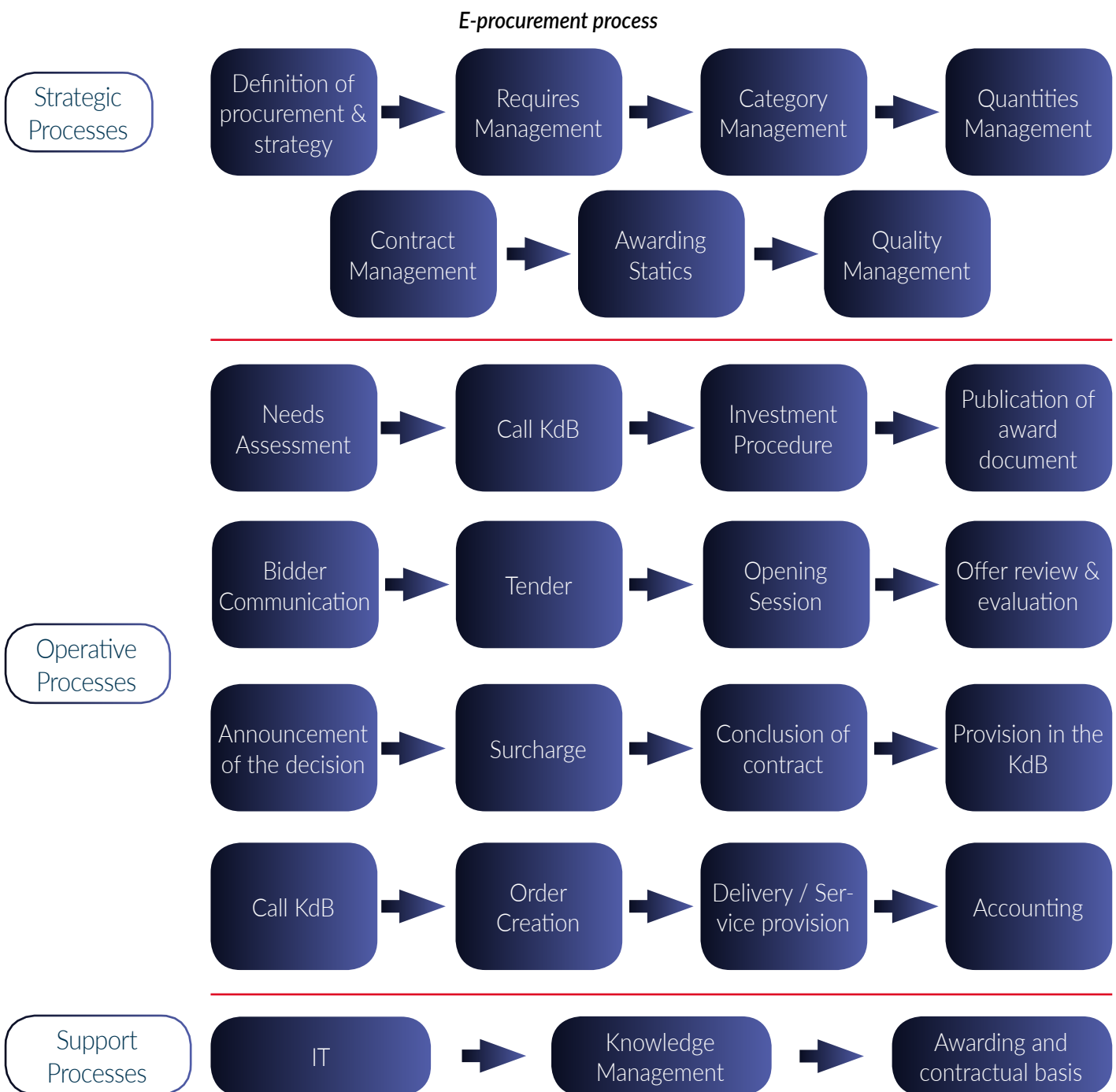
The objective is to concentrate the IT operations of the direct federal administration. ITZBund, BWI Information Technology GmbH, foreign IT of the Foreign Office and IT of the German Federal Employment Agency and the German Pension Insurance Federation form a performance group with the network service provider „federation networks“. In the future, IT services will be provided centrally by IT service providers as a full service.

2. **Services Consolidation.**

For similar services and use cases, common IT / Software solutions must be developed for all authorities. A federal cloud will be established to sustainably improve the efficiency, flexibility, security and data protection of federal information technology.

3. **Procurement bundling.**

The acquisition of IT will take place centrally at federal administration. The combination of acquisitions simplifies the standardization of IT and makes it possible to take advantage of the significant savings potential.



Source: Statista, (2017)

# CHAPTER VII.

## MAIN SOFTWARE SYSTEMS & REQUIREMENTS AT RELEVANT FEDERAL AUTHORITIES



# CHAPTER VIII.

## MAPPING THE GERMAN LOCAL STATES REGARDING E-GOVERNMENT



# CHAPTER IX.

# MARKET AND COMPETITION ANALYSIS

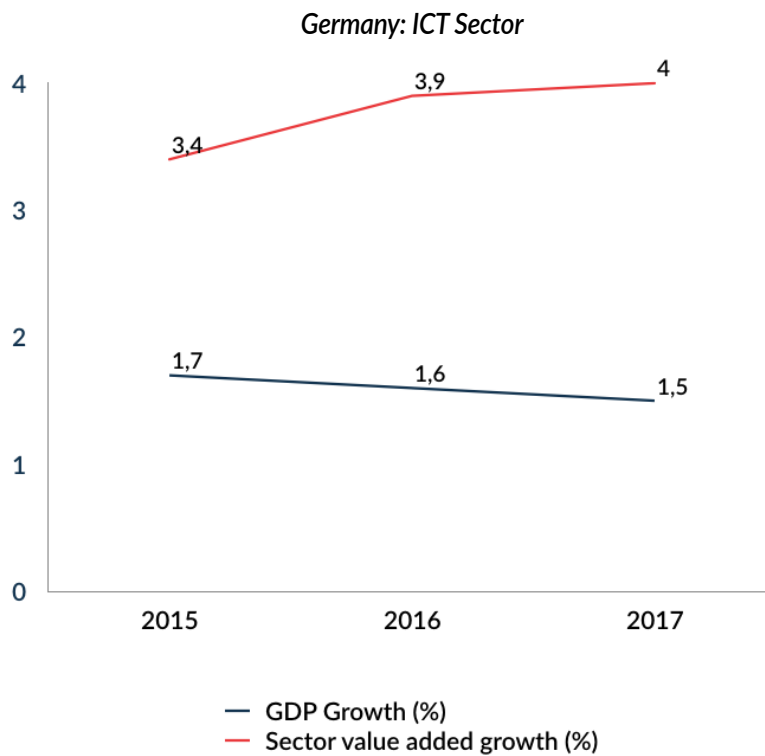




## 9. MARKET AND COMPETITION ANALYSIS

### 9.1. IT GERMAN MARKET ANALYSIS

GERMAN ICT MARKET VALUE & GROWTH. HOW DIGITAL IS GERMAN ECONOMY?  
CONTRIBUTION OF GERMAN ICT MARKET TO GERMAN GDP (PRIVATE AND PUBLIC SECTOR)



Source: IHS, Atradius

### Main German ICT Market Performance Indicators (2015 G 2017)

ECONOMIC INDICATOR	2015	2016	2017 (est.)
GDP growth (%)	1.7%	1.6%	1.5%
Sector value added growth (%)	3.4	3.9	4.0
Sector share in the national economy (%)			2.3
Average sector growth over the past 3 years (%)			2.3
Average sector growth over the past 5 years (%)			2.4
Degree of export orientation			low
Degree of competition			high

Source: IHS, Atradius

According to above graphics the ICT sector contribution to the total German GDP has grown from **3.4% in 2015 to 4% in 2017**. The average sector growth rate over the past 3 years was 2,3% & over the past 5 years was 2,4%, which shows, that although ICT market in Germany is important in terms of value, it has strong further growth potential despite the tough competition due also to the fact that the recent digitalization wave in the public sector started later in comparison to other developed EU countries. More IT / Software projects are expected in the public sector in upcoming years.

**The German IT Industry is the largest in Europe and one of the 3 largest worldwide after USA and Japan.** All main global players and national technology leaders are present in the market. Main players in the IT sector are active in most segments, among others also in public sector. According to various statistics, facts & figures (Ministry of Economics, Energy & Technology, Bitkom) in German market operate around 95.000 ICT companies generated €223 billion in sales in 2016, exported ICT services of €21.8 billion value and exported hardware and electronics worth of €31.5 billion value. According to estimations by the Ministry of Economics, Energy & Technology, annually around 7.000 new ICT companies on average are founded with an increase rate per year of 7.2%. It is estimated

that overall, software sales solutions will be the main growth driver the next years.

### Main German ICT market Indicators 2016

ICT INDICATOR	2016
Share of global ICT market	5,3%
Revenue (bn., euros)	223
Exports	9%
Employment	1,078,759
Companies	94,890
% of total investing activities	2.9%
Innovation spending (bn.)	14.6 (F4%)

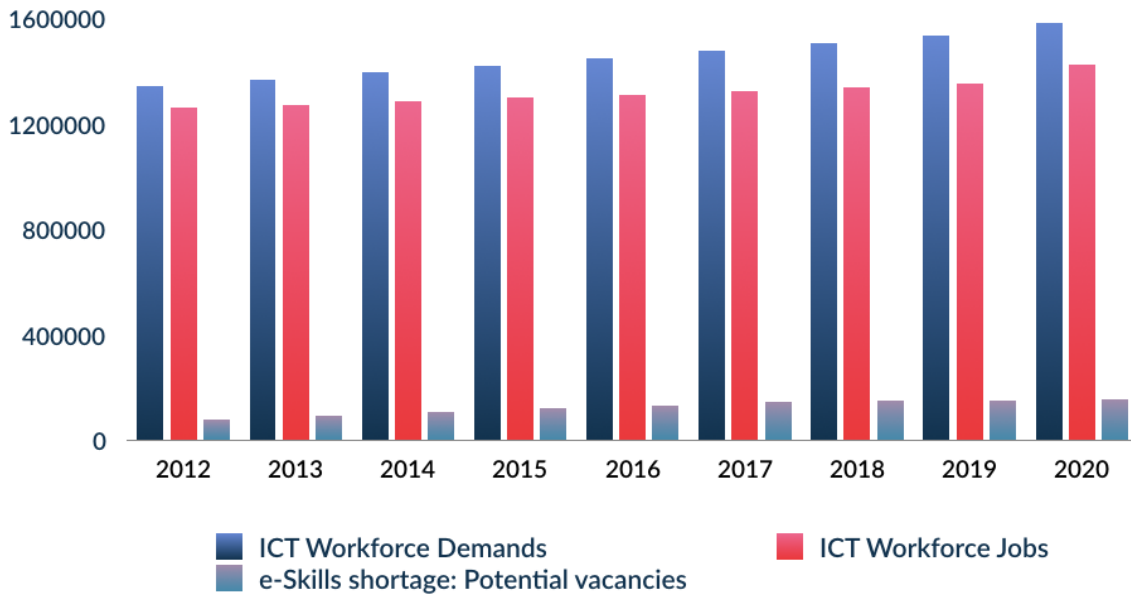
Source: Federal Ministry of Economics, Energy & Technology

Regarding the contribution of ICT in employment, ICT plays a significant role in the German economy. In the ICT sector are employed **more than one million employees**. In terms of employment it is even the second largest industry after

mechanical engineering with **930.000 direct employees**. Sector generated about **130,000 new jobs** over the past five years and it shows signs of further growth & creation of new jobs. That though will not happen horizontally and in the same way in all segments. It is estimated that new segments will grow faster and will create

more new jobs than other more classic ICT segments. It is estimated that due to digitalization wave in public sector and the greater importance for the modernization of the IT / Software systems in the public administration, it is expected also further jobs to be created in this segment.

**Germany: ICT Sector Employment Forecast**

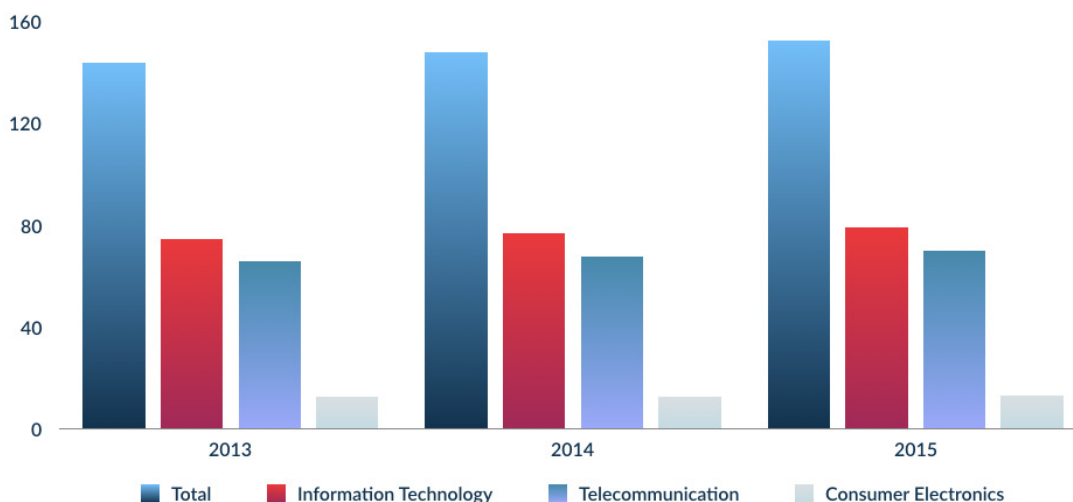


Source: Empirica, e-Skills in Europe, (2013)

Germany boasted Europe's largest ICT market in terms of revenue volume (20% of total EU market volume) with recorded turnover of **€128 billion in 2009 that grew to € 153 billion by 2015**. Among the ICT segments, Information Technology (Software etc.) grew the most from 2013 and till 2015, followed by Telecommunication & then

Consumer Electronics. **The contribution of main market segments of German ICT market in 2015 are following: Information Technology is the largest segment (35%), Telecommunications (29%), GIS (17.7%), Consumer Electronics (6%), various (14.3%)**

**Germany: ICT Sector Employment Forecast**



Source: Empirica, e-Skills in Europe, (2013)

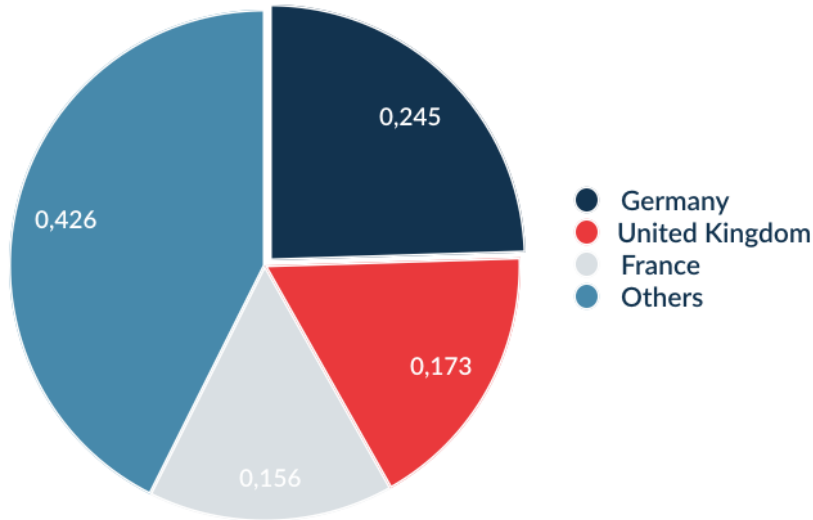


## SOFTWARE MARKET SEGMENT

The European Information Technology Observatory has estimated that Germany is the single largest software market in Europe. The country accounts for a quarter of the European software market by value, with the UK and France with

distance in second and third places with 18.6% and 13.6% respectively. According to Marketline, this growth trend is expected to continue in 2017 and next years, with a rate of 5.5% forecasted for the period from 2017 to 2019.

**Germany: Largest European ICT software markets**



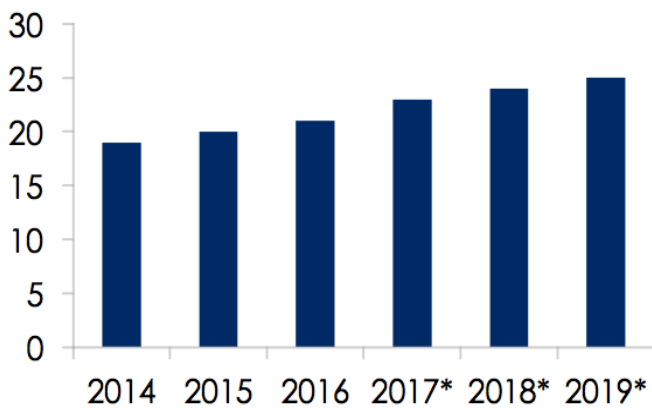
Source: European Information Technology Observatory, (2014)

## SOFTWARE MARKET VALUE FORECAST

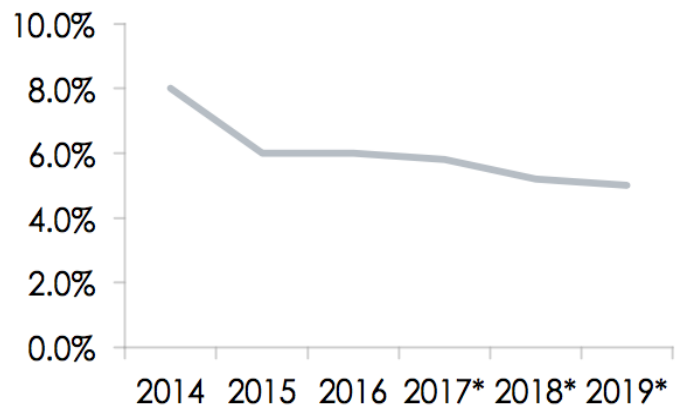
According to Marketline report by German Trade and Invest 2015, German software market gene-

rated €20 million in 2015 with 6% growth in 2016 and is expected to hit €25 millions by 2019.

**Germany: German Software Market (in billion €)**



**Germany: German Software Market (% Growth)**



Source: GTAI Marketline, (2015)

# CHAPTER X. INTRODUCTION TO E-GOVERNMENT & DIGITIZATION IN PUBLIC SECTOR AUSTRIA



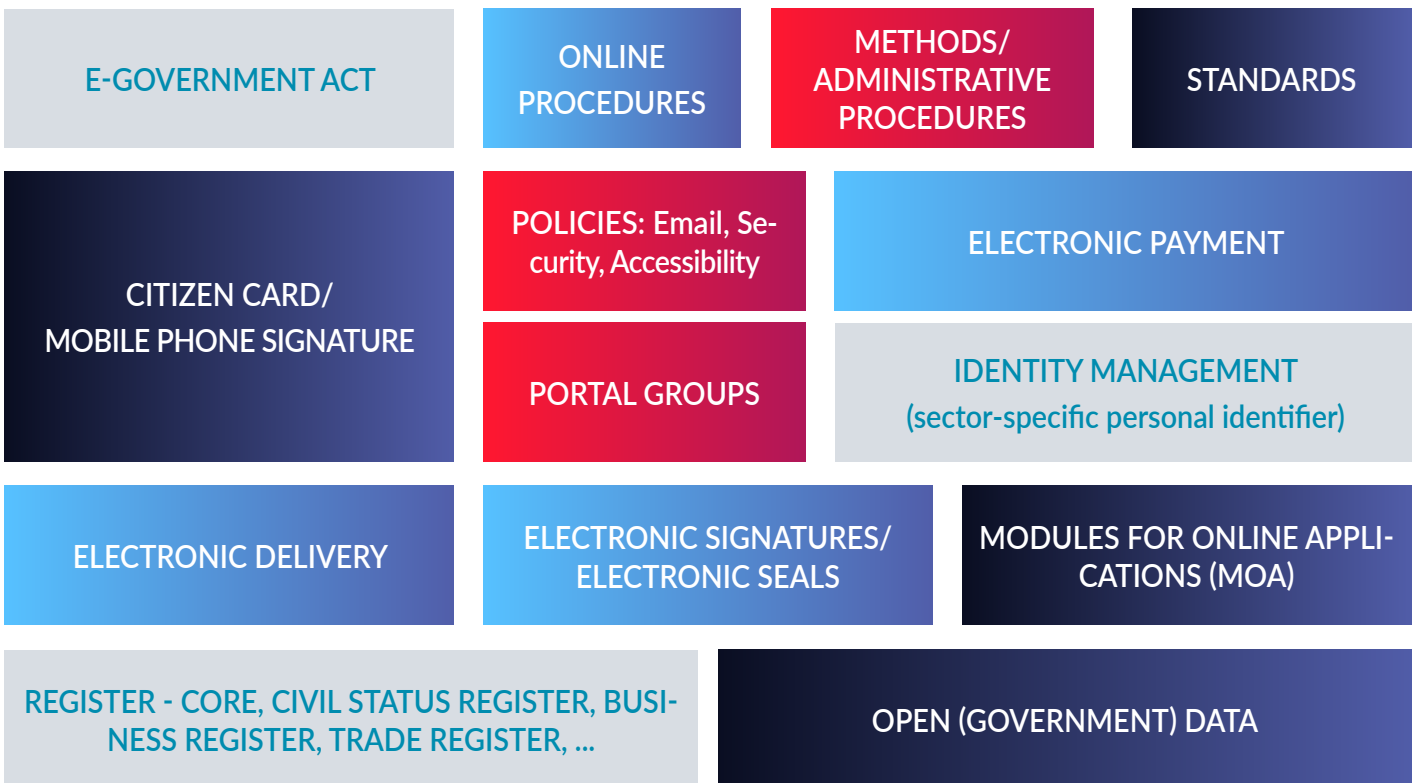


## 10. INTRODUCTION TO E-GOVERNMENT & DIGITIZATION IN PUBLIC SECTOR AUSTRIA

According to the Digital Austria ABC Manual of the Austrian Government with the title „**Administration on the Net – Fundamentals of e-Government in Austria**“ (2017) Austria is one of the leading EU

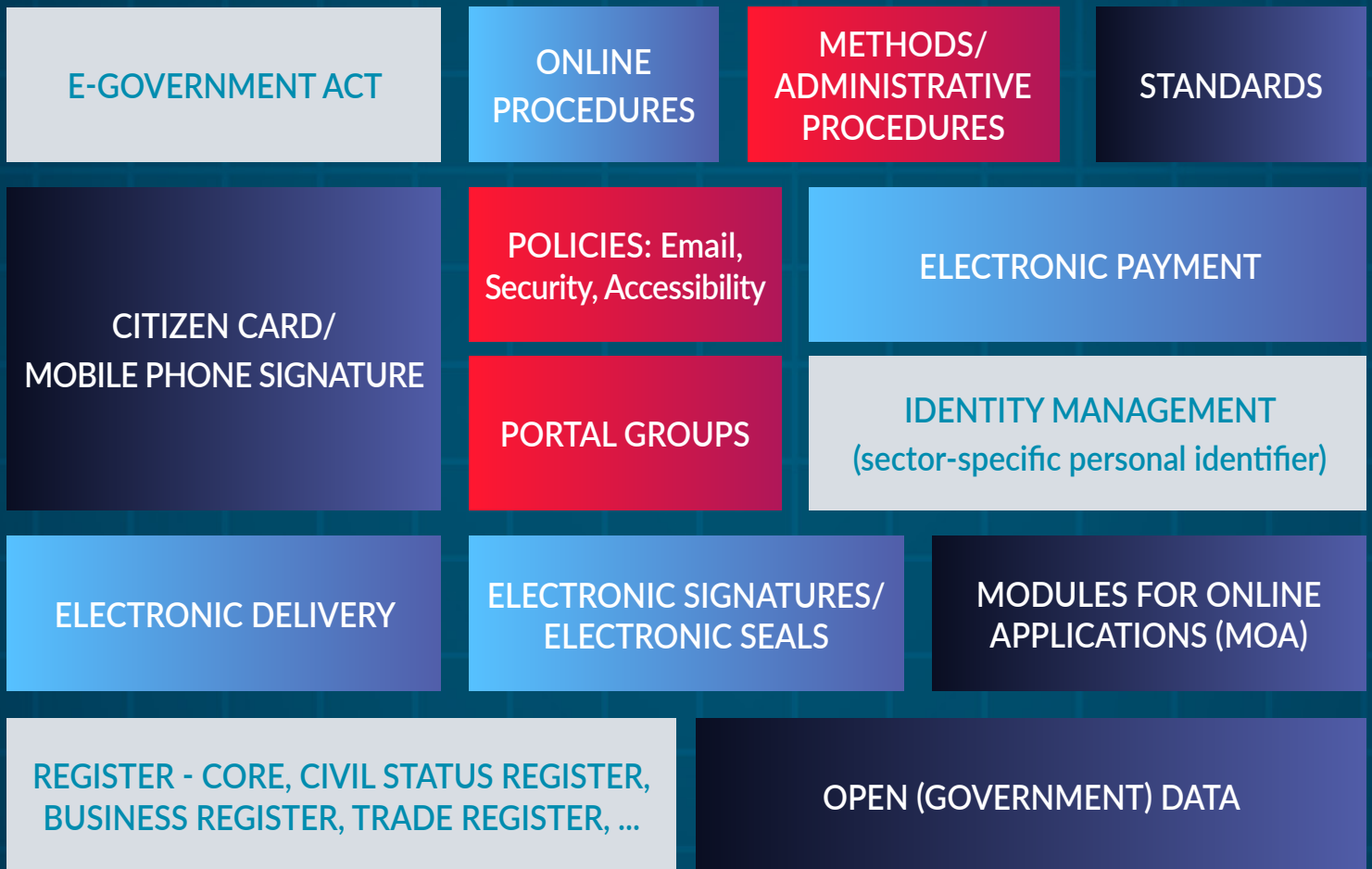
countries in e-Government services. The e-Government initiatives of the Austrian Governments have been awarded with top ranking position in various international and EU level e-Government rankings.

### *The main elements of the Austrian Digital/ E-Government Strategy*



Source: Digital Austria, Federal Chancellery (2017)

## THE MAIN ELEMENTS OF THE AUSTRIAN DIGITAL/ E-GOVERNMENT STRATEGY



Source: Digital Austria, Federal Chancellery (2017)

## STRATEGIC COMPETENT AUTHORITIES & INITIATIVES FOR E-GOVERNMENT & DIGITALIZATION WITH A COORDINATION ROLE IN PUBLIC SECTOR IN AUSTRIA

### E-GOVERNMENT PLATFORM

The establishment of the e-Government Platform back in 2003 was one of the leading initiatives that boosted e-Government and digitalization in public sector in Austria. The e-Government Platform handles the coordination of the topic e-Government centrally. A central coordination role efforts has also the position of the Federal Executive Secretary for e-Government.

### E-COOPERATION BOARD

The **e-Cooperation Board** was established also back in 2003 as the e-Government Platform. Its function is to support the e-Government Platform to achieve its operational goals. The **e-Cooperation Board, which is leaded up by the Federal Executive Secretary for e-Government,** is

composed of representatives from all ministries and provinces, local and municipal associations as well as other interest groups.

### DIGITAL AUSTRIA

The Platform Digital Austria, established back in 2005, has become the central point for coordination and strategy of e-Government in Austria by the Federal Government under the supervision directly by the Federal Chancellery. All e-Government projects in Austria now run under the Platform Digital Austria platform.

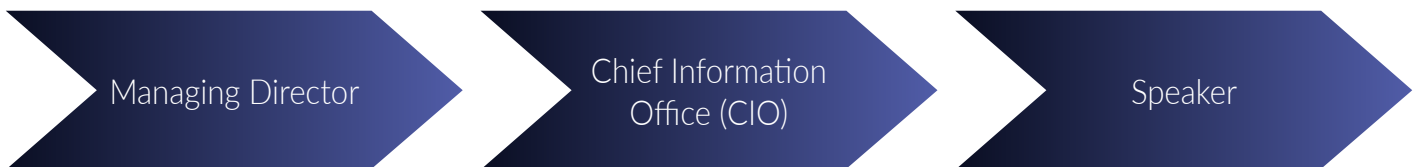
### COMPETENCE CENTER FOR INTERNET SOCIETY

The Competence Centre (KIG) was established as complementary to Platform Digital Austria with more focus on cooperation with businesses. It concentrated its efforts and synergies in: position Austria at the top of the list of ICT nations, increase broadband usage, leverage Internet use, support the inclusion and implementation of research results.

#### Main Structure of Digital Austria

### FEDERAL GOVERNMENT

#### Digital Austria



Federation, States, Cities and, Community association, WKO, HV / SV, Professionals



Source: Digital Austria, Federal Chancellery, (2017)

# CHAPTER XI. LOBBY POWER



# CONCLUSION AND PROPOSALS



# ANNEXES





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Federal: [http://www.verwaltung-innovativ.de/DE/E\\_Government/Prozessmanagement/prozessmanagement\\_node.html](http://www.verwaltung-innovativ.de/DE/E_Government/Prozessmanagement/prozessmanagement_node.html)  
State: [http://www.verwaltung-innovativ.de/DE/E\\_Government/Modellkommune\\_E\\_Gov/modellkommune\\_e\\_gov\\_node.html](http://www.verwaltung-innovativ.de/DE/E_Government/Modellkommune_E_Gov/modellkommune_e_gov_node.html)
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