



Strategy Paper

Digital Brandenburg

Resolution of the Brandenburg Government 11 December, 2018



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Introduction

Smartphone by the Lake: Brandenburg's Path to the Digital Future

Today, the vast majority of Brandenburg citizens use smartphones. We have become accustomed to checking emails on our phones, looking up the next train on an app, sending messages and photos over the internet or finding our holiday destination with sat nav. Smartphones have changed – and simplified – our lives like almost no other technological innovation before them. And yet, smartphones are only just ten years old.



Smartphones are only a small part of what digitalisation can do today and, especially, in the future. Digitalisation will continue to change the way we live, learn and work fundamentally. The digitalisation strategy that we have developed in the last two years is designed to ensure that we actively shape these changes and are not overwhelmed by them. So what is it all about?

First and foremost, it's about building a good digital infrastructure. Although we in Brandenburg are the leaders in eastern Germany, we are far from satisfied. In the next few years, the government alone will provide around 200 million euros to ensure that superfast internet reaches every part of the state.¹ Construction work is already underway in many places; elsewhere, it will start shortly. Our aim is to have a comprehensive gigabit infrastructure in the whole state by the early 2020s. In 2019 we will install around 1,200 free Wi-Fi hotspots in Brandenburg.

But what is "Brandenburgian" about this digitalisation? What does our concept of a digital Brandenburg look like?

First of all, digitalisation means a shortening of distances in our large and sparsely populated state. Trips to citizen centres and government offices will become unnecessary in future when it will be possible to use e-solutions for public services. If buses and trains have integrated timetables, or are even self-driving, we will become more mobile – even in the countryside. If doctors communicate with their patients and each other online, we can save a lot of travel and waiting times – which will result in better healthcare.

Above all, we will link digitalisation and rural areas – a subject that has been neglected in Germany to date. We want the distances between town and countryside to become shorter and rural areas to become (even) more attractive as places to live in. Thanks to digitalisation. And we can act as an example in Germany. Even now, co-working spaces are appearing, especially in rural areas – because they can offer the ideal combination of a good infrastructure with a good life and good work. It will be possible to organise public transport very differently with self-driving buses or cars. This presents opportunities for mobility in rural areas especially. This may all sound like dreams of the future now, but digitalisation can and will continue to enliven our rural areas, making them more attractive.

In Brandenburg we also benefit greatly from having Berlin in the middle of our state. We want to work more closely with Berlin and create win-win situations – for example, where networking the start-up scene is concerned, where clever ideas have to be translated into good products and services more quickly. Together, we can become a major digital innovation region in the heart of Europe.

¹ Throughout this Strategy Paper, unless otherwise specified, "state" refers to the Federal State of Brandenburg; "government" refers to Brandenburg State Government.

In Brandenburg we will also continue to pay special attention to education and health. That is why we want to invest in the digital infrastructure in our schools, universities and hospitals. We will establish a school cloud for all schools so that the advantages of the net can be enjoyed in every subject. In this we want to be pioneers in Germany. Together with industry, we want to establish digital professorships to advance the opportunities and benefits of digitalisation.

Across all departments and subject areas, our digitalisation strategy should help to find new solutions for making life in Brandenburg simpler and better. This is the central challenge of digitalisation. In administration in particular, processes should become simpler. Admittedly, this will not happen in a single step – but it is key that we have started to rethink things. In the years ahead, we will therefore invest 450 million euros in digitalisation in the state.

We are well aware that the world is still turning. The speed of development is tremendous in the field of digitalisation. We will be dealing with new subjects – such as artificial intelligence. That is why we will continually update our digitalisation strategy so that we can always keep track of the latest developments. With you. Join in! Because together we are guided by the vision of a life with smartphones by the lake.

Thomas Kralinski

State Secretary and Digital Coordinator of the Brandenburg Government

Summary

The government of Brandenburg sees advancing digitalisation as a restructuring task and a modernisation opportunity. For the government, digitalisation is not an end in itself. Firstly: People are at the heart of our actions. Digitalisation changes practically everything that has gone before in a fundamental way. These changes will result in people's lives in Brandenburg becoming better and easier. Secondly: Tradition and tablets can and should complement each other perfectly in Brandenburg. The government wants to answer the question of how the "now" can be productively, positively and humanely be combined with the "new".

Following the Status Report of summer 2017, this Strategy Paper is another milestone on the road to a Digital Brandenburg for the 21st century. Brandenburg's parliament adopted a resolution of 9 November 2016 (printed paper 6/5185-B) which called upon the government to develop a "Digital Brandenburg Strategy for the Future".

While developing this digitalisation strategy over the last two years, the government and administration have greatly intensified their digitalisation efforts in all policy areas. In this respect, the extensive strategy process with all its dialogue formats, workshops, political and organisational changes is actually part of the success of a digitalisation strategy. The cross-departmental issue of digitalisation has been firmly anchored in state policy.

This Strategy Paper contains the digital policy concept of the Digital Advisory Board for the digital future of the state, a Digital Agenda for the government with seven areas for action and political objectives, an outline of the future course of digital policy and around 200 measures from all departmental areas.

For the first time, the digitalisation strategy creates a link between all digital policy activities of the government and aligning state policy with a digital future. As a specifically Brandenburgian digitalisation strategy, it focuses on the strengths and challenges of the state. In many areas, but particularly in the areas education, health and agriculture and forestry, Brandenburg is aiming for a pioneering role in digital policy that is designed to be an example to states with similar structures.

The core of Brandenburg's digital policy can be summarised as:

1. People are at the heart of all digitalisation concepts. Thanks to networked, individualised and simplified processes, digitalisation will strengthen the human factor in Brandenburg's society of the future.
2. In a large and sparsely populated state like Brandenburg, digitalisation can help overcome distances in many ways.
3. Brandenburg tradition and the digital modern age are not contradictions; they can complement each other perfectly.

The basis of all digital policy is the adequate availability of digital infrastructures such as broadband and mobile telecommunications. Thanks to the state programme "Brandenburg Glasfaser 2020" (Brandenburg Fibre 2020) and the federal government's broadband development programme, Brandenburg has a solid foundation and will benefit from strong supply growth in the years ahead. However, the government is striving for a clear political advancement of services of general interest and access to the digital world. This includes the maximum expansion of mobile telecommunications coverage and closing the last "dead spots" in the state.

Digital education and media skills are essential prerequisites for dealing with digital applications in working and everyday life. The government wants to implement various measures to enhance digital skills in all generations and achieve "digital sovereignty". All educational establishments are adapting to the digital change; basic, further and advanced vocational training are also geared up for lifelong digital learning.

In the digital economy, the government intends to use digital transformation tailored to each sector and to the benefit of the Berlin-Brandenburg metropolitan region. This also includes expanding sectors that are particularly strong or show promise for the future in Brandenburg, such as the digital health sector or forestry and agriculture.

At the same time, the transformation of the digital working world must be supported along the lines of “Good Work”. This is the only way that specialist staff can be recruited and retained in all parts of the state.

Digitalisation will be used to further increase the attractiveness of the state. Both towns and rural areas can benefit from digitalisation. New forms of working and living as well as mobility offerings and services can make distances much shorter, especially in very rural areas; digital medical provision and care can benefit older people all over the state in particular. The cultural diversity of Brandenburg will also be revitalised and made accessible by means of digitalisation, contributing to the strengthening of a regional identity.

Public administration will become more digital and therefore more citizen-friendly. Process optimisation and digital networking benefit people in the state as well as staff. The justice system will also be comprehensively digitised and become more efficient.

Consumer and data protection always have to be considered when dealing with digitalisation. Only with a maximum degree of trust and security in the digital world can digital products and services or new applications be successful in the long term.

Digitalisation also affects the social order and democratic coexistence in a special way. This is why quality and diversity in journalism should be strengthened and voluntary work and a strong civil society should be expanded in the digital world.

The government will further advance the discussion surrounding digitalisation in Brandenburg in the years to come.

Visions for the Future from the Brandenburg Digital Advisory Board

In April 2018, the cabinet appointed a nine-member Digital Advisory Board, made up of experts from the state, to advise the Minister-President of Brandenburg. The following are members of the Digital Advisory Board with equal standing:

- Prof. Dr. Ulrich Berger, Chair of Automation Engineering and Head of the Innovation Centre of Modern Industry (IMI), BTU Cottbus-Senftenberg
- Caroline Gorski, Rolls-Royce Group Director of R² Data Labs
- Prof. Dr. Ines Härtel, Chair of Public Law, European University Viadrina Frankfurt (Oder), also judge on secondary appointment at the Higher Administrative Court of Berlin-Brandenburg
- Jürgen Heese, CEO of Telemed-Initiative Brandenburg e. V. and Initiative Gesundheitswirtschaft Brandenburg e. V. (Health Sector Initiative)
- Laura-Kristine Krause, “D64-Zentrum für digitalen Fortschritt” (Centre for Digital Progress) and head of the programme Future of Democracy in the “Progressives Zentrum”
- Prof. Dr. Christoph Meinel, Institute Director and CEO of HPI gGmbH
- Sven Slazenger, Managing Director of Interlake System GmbH, Potsdam
- Susanne Stumpfenhusen, Berlin-Brandenburg regional leader of the ver.di trade union
- Prof. Dr.-Ing. Cornelia Weltzien, Chair "Agromechatronics - Sensor-based Process Control in Agriculture", Leibniz Institute for Agricultural Engineering and Bioeconomy (reg. assoc.) (ATB) Potsdam.

The Digital Advisory Board had the task of developing an abstract “concept” for a digital Brandenburg of the future, to prefix the digitalisation strategy and give it direction. The ten visions for the future that were developed describe a “look into a crystal ball” and describe a Brandenburg where digitalisation has already been used to the best possible benefit of the state. These visions were presented to the public for discussion in an online consultation in October 2018 and presented to the Minister-President in November 2018.

The text below is the responsibility of the members of the Digital Advisory Board and does not necessarily reflect the opinion of the government.

Visions for the Digital Future of Brandenburg

The Digital Advisory Board of the state of Brandenburg notes that digitalisation in Brandenburg is already much more advanced in many areas than some citizens may be aware. There is a need to catch up in other areas, but this in turn means that there are new options for design with considerable opportunities for innovation and growth for our state. The Digital Advisory Board wants to motivate the citizens of Brandenburg to see digitalisation as an opportunity for the development of their state.

People, politics and industry can all actively help to shape the route to a digital Brandenburg. As members of the Digital Advisory Board, we explicitly encourage all the stakeholders to do so. We advise the state of Brandenburg to see itself as an experimental space for digital progress in rural areas and to gain experience for the Republic as a whole in this area. Digitalisation presents tremendous opportunities for the state, in particular in the fields of education, agriculture and forestry and digital health. The Digital Advisory Board recommends building on the existing excellent preparatory work to build on strengths and continue the pioneering work in this area.

What is undisputed is that the foundation of all digitalisation is the provision of digital infrastructures. This must include the landlines network and mobile telecommunications, cover the whole state, be high-performance and affordable as well as continuously updated. In the view of the Digital Advisory Board, the provision of digital infrastructures there has top priority for the state and companies. This is not the goal of digitalisation, but its prerequisite. The same applies to other fundamental prerequisites: maintaining and enforcing the existing legal order in all

digital subject areas, the highest possible level of data and IT security and an early engagement with the ethical implications of digital progress.

The Digital Advisory Board has ventured to look into the digital future with the following ten visions. The visions describe what the state of Brandenburg might look like in a few years' time following positive digitalisation.

The visions:

1. *Digitalisation will foster human interaction.*
2. *Rural Brandenburg will become an even more attractive place to live and work, geographical distances will become less important.*
3. *Educational offerings will become comprehensively available and freely accessible.*
4. *Economics, ecology and social repercussions will be considered cross-sectorally.*
5. *Brandenburg citizens will be freed from routine activities in their everyday and working lives and have a higher quality of life.*
6. *Democracy in Brandenburg will become livelier, more transparent and more participative.*
7. *Brandenburg will build on its strengths and create spaces for innovation.*
8. *Digitalisation will foster social progress.*
9. *Municipalities will become more important as local contacts.*
10. *Data will be used sustainably.*

Explanations of the Visions

1. Digitalisation will foster human interaction.

Digitalisation is not an end in itself; rather people's needs must be at the heart of all digitalisation processes. Digitalisation has the potential to make the lives of Brandenburg citizens easier – all over the state and across generations. Digitalisation is understood as a cross-sectoral societal task with social, ethical, ecological and economic effects.

2. Rural Brandenburg will become an even more attractive place to live and work, geographical distances will become less important.

Digitalisation brings town and country closer together. It creates better conditions for greater mutual understanding and a growing interest in regionally produced food and drink, local leisure and cultural offerings. Digitalisation in the health sector is so advanced that technical innovations regularly support patient care. Telemedicine and electronic patient records are part of everyday life, while maintaining a high degree of data and patient sovereignty. Gainful employment can be matched to individual needs better than ever (working from home, work-life balance, flexible part-time work, accessibility etc.). Thanks to a digitalised environment, contact with local council offices, shopping, educational offerings and medical consultations can largely be carried out from home.

Where travel cannot be avoided, intelligent and integrated mobility concepts make it possible to reach regional and local centres quickly from rural areas.

3. Educational offerings will become comprehensively available and freely accessible.

New forms of digital learning, research and knowledge transfer have established themselves. All kinds of skills are being employed and strengthened individually. It is easier to compensate for shortcomings using new technology. Today, knowledge is increasing faster than ever and is accessible to everyone. Lifelong learning and further education in all fields of work are uncomplicated, everyday and a matter of course. Thanks to a suitable

combination of cognitive and social intelligence (man-machine-man learning cycles), it is normal to acquire skills and knowledge together with or with the help of machines.

4. Economics, ecology and social repercussions will be considered cross-sectorally

The “digital enlightenment” has led to a new form of cross-sectoral networked thinking. Negative effects can be identified using the methods of digitalisation and included in decision-making processes. Digitalisation is used to tackle problems such as climate change and land loss in a resource-saving and environmentally friendly way. Smart agriculture makes it possible to encourage biodiversity with sustainable and regional cultivation and to support individual forms of nutrition with short logistics chains.

5. Brandenburg citizens will be freed from routine activities in their everyday and working lives and have a higher quality of life.

In the digital future, many fields of work will have changed, new areas of work and business will have emerged. Thanks to new, individual further training opportunities for all age groups and sectors of society and due to real simplification in everyday life, Brandenburg citizens have become accustomed to the world of digital living. Because uniform work steps are entrusted to machines, people can concentrate more on social or intellectual activities. Digital services strengthen the availability of social offerings.

Automation helps to mitigate the shortage of skilled workers. At the same time, it drives the development of new fields of work forward. The opportunities for basic and further vocational training are used consistently, which is why employees remain employable in changing fields of work and people with few qualifications are increasingly finding new employment.

6. Democracy in Brandenburg will become livelier, more transparent and more participative.

Thanks to digital instruments, more people are doing voluntary work or becoming involved in politics and are therefore taking part in shaping the world in which they live, irrespective of their mobility. Thanks to e-government, Brandenburg’s municipalities and public institutions can be accessed without having to visit them. Communication with committees across large distances is made easier with videos and software to evaluate data. E-participation also strengthens the established democratic processes in Brandenburg.

7. Brandenburg will build on its strengths and create spaces for innovation.

Brandenburg will become a pioneer and model for other large and sparsely populated states. It will explore, test, realise and export new ideas, economic concepts and production systems. Brandenburg creates the digital prerequisites for innovation and for promoting existing and new industries.

Our state uses its special “digital ecosystem” with a disproportionately large number of small companies as a productive climate for initiating new projects and branches of industry.

Brandenburg’s small, but compact and flexible economic structure, the strong will of the stakeholders to shape their future and the short distances between politics, science and business all contribute to the success of the region. The state also benefits from its proximity to Berlin, especially due to cooperation in the health, energy and media sectors and in science and research. Brandenburg’s open spaces and our high quality of life make indispensable contributions to the blossoming of the capital region.

The particular digital strengths of Brandenburg are used to successfully establish sustainable industries for the future. Digitalisation is making a major contribution to securing the international competitiveness of Brandenburg’s industry.

8. Digitalisation will foster social progress.

Digitalisation has made considerable social progress possible. New concepts for lifelong learning, further training and codetermination in companies have ensured that people in the state see digital change as an opportunity. Brandenburg's citizens have better, safer and more individual jobs than before in the analogue world because it is possible to react quickly and flexibly to changing needs. Comprehensive digital education opportunities encourage social access and mobility. Greater distributive justice and social participation reduce social conflict and strengthen social satisfaction in our state.

9. Municipalities will become more important as local contacts.

Municipalities are an important partner, especially in a digital world that is overcoming distances. With on-location digital expertise it is possible to accompany people from the analogue to the digital world. Municipal regional digital strategies, pilot projects and specialised digital hubs bring "Tangible Digitalisation" to citizens.

10. Data will be used sustainably.

The potentials of digital data are felt in all areas of industry and society. Digital data is used when recording data, acquiring information and making decisions (artificial intelligence). High security standards, strict sanctions in the event of misuse and maximum data autonomy for users create the conditions for the positive effects of the data economy being able to be used sustainably in industry and society.

I Digital Policy is Future Policy

a. The Characteristics and Strengths of Brandenburg

Brandenburg has unique features that have to be a starting point for developing a digitalisation strategy. Digitalisation makes it possible to use these features as an opportunity.

Large and Sparsely Populated State and Capital City Region

The regional structure of Brandenburg is, for example, unusual. The large and sparsely populated state of Brandenburg is extremely heterogeneously settled. While there is a very high population density in the area around Berlin and along the commuter axes, rural areas are largely sparsely settled. With a population density of approx. 84 people/km², Brandenburg is the federal state with the lowest population density after Mecklenburg-Vorpommern. Moreover, around half of the population lives on about 85 per cent of the land, while the other half is concentrated on the 15 per cent of the land around Berlin. There are also two cities with populations of over 100,000 each, Potsdam and Cottbus/Chósebus, as well as a large number of small towns.

This heterogeneous structure also has an impact on the provision of private and public goods and services. Urban regions, especially in the immediate surroundings of Berlin, are characterised by a comprehensive offering, whereas the provision of broadband internet, mobility, educational offerings, medical services and administrative services is especially challenging in the sparsely populated rural areas. Demographic change and its consequences are inextricably linked with this. Even though a stabilisation of small and medium-sized towns (especially those with commuter links to Berlin) and a rising birth rate have been observed in the last few years, the question of services of general interest in rural areas is of paramount importance.

Digitalisation presents opportunities for meeting these challenges effectively: Digital applications can help to strengthen services of general interest in rural areas in every sector – from mobility and education to health – and to make these areas more attractive. With an appropriate infrastructure, the sparsely populated regions of Brandenburg can derive significant benefits from digitalisation. Small towns and medium-sized centres, which are already increasingly developing into "digital towns" and assuming responsibility for providing their surrounding areas with services, will benefit most from these opportunities.

The proximity to Berlin is a great advantage for Brandenburg because both states can gain synergies for their own wealth creation. The start-up centre Berlin can benefit from the SMEs in Brandenburg. New digital applications and processes can be developed jointly through good networking and the exploitation of existing potential. The short transport routes to the large market in the capital are also a great advantage – for food, for example. Digital platforms for producers from Brandenburg on the one hand and for consumers in Berlin on the other could create more sustainable forms of trade and improved consumer information in the future.

The existing need to act caused, among other things, by challenges arising from demographic change, can act as a catalyst for digitalisation. Brandenburg can be a pioneer in the use of digital solutions in a wide range of subject areas and score with creative digital competence. For example, telemedicine applications can play an important role in advancing digitalisation in rural areas and promoting its acceptance at the same time. Sensor technologies can provide new impetus and generate locational advantages, e.g. in agriculture, forestry and horticulture.

Living Industry and Innovation Location

The particular economic structure of Brandenburg can have a positive impact on digitalisation and the establishment of a specifically Brandenburgian digital “ecosystem”. It is mainly characterised by SMEs and a large number of small and micro businesses. Skilled trades in particular are rooted locally. In view of national competition on the internet, there is a lot of pressure to adapt, even in the skilled trades. The generational change in company management that is, in many cases, imminent will be an opportunity to make an entire sector of industry more modern, more efficient and more lucrative.

Around a fifth of the gross added value in the state of Brandenburg is earned by the manufacturing sector (not including construction). The keyword Industry 4.0 presents industrial companies with significant opportunities for development, but also challenges.

More than 70 per cent of gross added value is earned by the services sector. Here, too, there are many points of contact with the subject of digitalisation, for example, in retail and tourism. There is potential for innovation in the creation and linking of digital interfaces between the real process stages.

Five shared clusters in Berlin and Brandenburg and the four Brandenburg-specific clusters are of particular economic importance. In the clusters, economic sectors are bundled and networked according to industry. Digitalisation plays a special role here too. Especially in the clusters "Health Care", "ICT, Media and Creative Industries", "Transport, Mobility and Logistics", "Optics and Photonics" and "Energy Technology", important synergy effects also arise in interaction with companies in Berlin. The regional cluster policy that has been pursued for many years has also contributed to successful innovation and transfer processes, for example between industry and research, and created resilient networking and communication structures. The regional growth cores are particularly important in this context as motors of economic development. Brandenburg is ready for digital change.

The change processes after the German unification have already resulted in high levels of productivity consolidation and increased efficiency that other states may still have ahead of them. New challenges, such as the decline in labour force potential, can be countered in a targeted fashion with the help of digitalisation. Particular attention should be paid to the synergy of professional skills development and digitalisation. Digital technologies can make the vocational education system more attractive. Training and attracting young skilled workers will be one of the key factors for success in securing the economic future for all regions of Brandenburg, but also and especially for the Lausitz region (Lusatia).

Added to this is the university and research network in Berlin and Brandenburg, which is especially attractive in terms of its density and is highly attractive to companies, and especially to local digital companies that want to grow. Brandenburg's research and university landscape plays a decisive role in the development and design of innovations. Numerous faculties in universities and research institutions specialise in digital aspects and technologies and promote innovations and start-ups in cooperation with industry.

Brandenburg as an Energy and Nature State

Digitalisation also has an impact on Brandenburg as an energy and raw materials state: Brandenburg covers more than a tenth of Germany's energy requirements and the share coming from renewable sources, such as wind and solar power, is constantly increasing. Smart grids are needed for load management and to distribute the decentrally generated energy. Agriculture and forestry also characterise the landscape. Some companies and forms of management are already highly digitalised today. Agricultural and forestry operations naturally consider sustainability and ecology as well as economic aspects. This will become even easier and more efficient with the instruments of digitalisation.

Attractive cities, family friendliness and a wide range of cultural offerings contribute significantly to the quality of life in Brandenburg, which also benefits from the proximity to nature and the many water bodies. Word of this has

spread beyond the state borders: Every year, more tourists come, and increasing numbers of people are moving to Brandenburg permanently. With the help of digitalisation, the high quality of life can be guaranteed in the location competition and used as an argument for skilled workers and families to settle here.

Digital Pioneers

Not least, Brandenburg is building on an already existing and well-developed innovation landscape which we aim to strengthen. Many stakeholders have ventured into the digital age – hospitals, universities, municipal administrations – and there are a number of unique digital pioneers in Brandenburg – e.g. the Thünen Institute's European forestry research project "STReSS" with its tweeting pine trees near Eberswalde or the protestant church's digital pastor (EKBO). These pioneers must be encouraged to continue along the path they have started, to act as multipliers and to network with new idea generators so that they can make a lasting contribution to a developing digital ecosystem.

b. Digitalisation: A Turning Point in History and an Opportunity for Modernisation

Digitalisation represents a turning point in history, the extent and limits of which are, as yet, unclear. As with printing, steam engines or electrification in previous centuries, we are witnessing societal change triggered by a technological innovation. Whereas just a few years ago, we understood "digital" as the purely technical opposite of "analogue", today it is clear that social processes in practically every area of life will change with digitalisation. The comprehensive networking of data and information and an extreme acceleration of processes will make innovations that change society possible and can help to solve important social problems. At the same time, new questions for development are raised.

Duties and Opportunities of the Brandenburg Government

It goes without saying that the influence of the Brandenburg government is limited. Globally operating companies and economic superpowers play a major role in determining the pace of digitalisation. Competition and consumer acceptance decide whether innovations are implemented or not. Nevertheless, political influence and control must be asserted, especially where social or consumer policy effects can be observed. For example, the government can adopt positions – either in its own political responsibility or in conjunction with other political or civil society stakeholders at a national or European level – that make a Brandenburgian approach to digitalisation clear. It is also a matter of finding answers to completely new questions and questioning and revising old answers, in the interests of Brandenburg's citizens. Which developments do we want to encourage? Where is it necessary to lay down guidelines? At the same time, organisational and communicative arrangements must be made to be able to answer the fundamental questions of digitalisation, which emerge ever faster, politically.

While many measures, discussions and new developments are still along way from being answered or solved definitively, digitalisation stopped being uncharted territory a long time ago. Digital policy discussions on individual subject areas have been conducted at all levels for many years. For example, a decade ago "network policy" dominated the debate and various expert commissions, including the Enquete Commission "Internet and Digital Society" of the German Bundestag, presented comprehensive reports and recommendations for action. Other federal states have developed their own digitalisation strategies, and some of them have even been updated. In this respect, this Brandenburg Digitalisation Strategy can be seen as a state-specific contribution to and interim result of a wide-ranging and ongoing debate. Brandenburg cannot and must not re-invent the "digital wheel" as a whole, but, due to its special local circumstances, sees its claim to be a pioneer mainly in setting an example for states with similar structures.

From the government's point of view, digitalisation offers immense future and modernisation opportunities for the state of Brandenburg. The fields of action listed in Part II indicate the issues that need to be addressed

Changing Society – Concerns and Uncertainty

It is precisely the increasingly rapid changes in so many areas of life and politics that unsettle people. The government takes these concerns very seriously. It counteracts uncertainty with its social policy approach, as well as a well-founded digital policy designed to ensure the greatest possible benefit to all the state's citizens. The opportunities for society resulting from technological innovations for Brandenburg – whether in telemedicine, from new forms of mobility and working, in education, environmental protection, forestry and agriculture – should be exploited to the full. At the same time, negative side effects, such as social upheaval, inequalities and disadvantages must be decisively countered.

The government sees digitalisation as an opportunity to deal with the very real – including analogue – challenges in state development more effectively. Digitalisation often acts as an amplifier, in both a positive and negative respect, for existing development trends in various fields. It is important to make effective use of opportunities for new development while at the same time avoiding the risks associated with digitalisation.

The spectrum of social issues in which digitalisation raises new questions, sometimes even fears and uncertainties, is broad: Automation and rationalisation of workplaces, influence exerted by algorithms or artificial intelligence, manipulation of elections and controlled democracy, social isolation and media "echo chambers" etc. The more positively perceived developments such as block-chain, augmented/virtual reality also raise fundamental, ethical and social questions. The government will investigate these issues in depth at an appropriate juncture.

This Digitalisation Strategy does not offer definitive answers to all of these challenges, but can only suggest a course for a positive digital future for Brandenburg on the basis of the level of knowledge at the end of 2018. We need extensive debate in politics and civil society about new challenges posed by digitalisation. We want to conduct this debate.

c. The Strategy Process

With this strategy, the government is presenting a "navigation system" for digital change. The starting point for the Strategy Process is the resolution of the Brandenburgian parliament of 9 November 2016 (printed paper 6/5185-B) which called upon the government to develop a "Digital Brandenburg Strategy for the Future".

In August 2017, in the report "Overcoming Distances. Status Report on the Digital Brandenburg Strategy for the Future" (printed paper 6/7320), the government presented a comprehensive stocktaking of the status of digitalisation in Brandenburg. This Status Report was a key step in the digitalisation strategy. The "Digital Brandenburg Strategy for the Future" abstains from repetitions and concentrates on a specific timetable for the digital future.

The government believes that digitalisation is the central future task for each ministry in their respective area of political responsibility. The State Chancellery coordinates the comprehensive strategy process and consolidates the ministries' specialist policy approaches. In this respect, Brandenburg's digitalisation strategy is designed to be a cross-policy umbrella strategy. It will be developed and concretised, step by step, using the digital strategies and agendas of individual ministries, each of which can respond more effectively to technical policy considerations.

Brandenburg is deliberately pursuing an integrative approach. This has triggered an intensive internal process of change and discussion that was expedient and necessary in the context of a digital policy realignment for an entire government. The comprehensive transformation is an important element of the strategy process. The government is putting the emphasis on the feasibility of proposed measures.

On 24 April 2018, the government's first "digital cabinet" met to deal with important issues and decisions relating to digital policy, for example the draft Brandenburg E-Government Act, appointing the nine members of the Digital Advisory Board or the foundation of a digital agency. The conference of state secretaries also regularly discusses digital policy issues.

New approaches have also been adopted in the internal and interdisciplinary coordination of departments. Since the end of 2017, all ministries have had their own digital policy coordinators who meet monthly within the framework of an interministerial working group. With the aid of various department-specific and interdepartmental workshops and events, newly created positions and external expert support, a high degree of digital policy competence has been established in the government.

Since June 2018, a "Digital Advisory Board", made up of nine proven experts, has been advising the government on digital policy issues. Part of the Digital Advisory Board's work is to develop specific concepts for a digital Brandenburg of the future and to support the digitalisation process. The Digital Advisory Board presented its visions, which are part of this digital strategy, to the Minister-President on 7 November 2018.

This Digitalisation Strategy was drawn up with the involvement of a number of stakeholders from industry, science and civil society. Numerous individual conversations and digital policy information trips have taken place, so that developments in other federal states and abroad could be included and examined with respect to their feasibility for Brandenburg.

In 2017 and 2018, a series of public digital policy events organised by various ministries provided the opportunity for dialogue with interested citizens. Various suggestions and technical impulses were taken up and incorporated into this Strategy Paper.

The government posted an online survey from 18/10 to 02/11/2018. This gave the interested public the opportunity to comment on the visions of the Digital Advisory Board and on the fields of action covered by the digitalisation strategy by evaluating each vision/topic according to importance/relevance. A total of 797 people took part, although no claims for representativeness can be made and the occasional double participation cannot be ruled out. The government views the online survey as an important pointer. The provisional result confirms that the subjects of digital infrastructure, education and attractive rural areas are the focus of interest. And the sequence in which the topics appear in this Strategy Paper in the Digital Agenda (Part II) largely follows the weighting given in the online survey. The partial results of the online survey are saved at www.digitalesbb.de.

The government understands digitalisation as a future-shaping task. Although the parliament's specific task is completed with the submission of this document, support for and control of the resulting measures and the discussion about digitalisation and its impacts on Brandenburgian society are far from over.

II Digital Agenda – Fields of Action and Measures for Brandenburg

Digitalisation is a task for all the ministries in the Brandenburg government. In the following, fields of action and the corresponding measures of the ministries that point the way to Brandenburg's digital future will be outlined.

The following fields of action therefore consolidate thematic focal points in digital policy, thereby taking into account a concept of interlinking that is at the core of the digitalisation process

The fields of action describe the government's central digital policy activities and objectives. True to the nature of an umbrella strategy, the presentation was deliberately kept concise.

The government has developed a wide range of measures to achieve its digital policy objectives (Chapter IV). These measures vary greatly in nature and reflect different degrees of planning and implementation. Where possible, the measures were started without delay, before the publication of the Strategy. Other measures still require further financial and personnel allocation and should therefore be understood as approaches for medium-term planning. The diversity of the measures illustrates that the government has comprehensive ideas for a concrete approach to the state's digital future.

a. Ensuring Digital Access Through High-Performance Infrastructures

Aims of the Brandenburg Government:

- Redefining services of general interest and access in the digital world,
- Closing “dead spots” with a high-performance, sustainable broadband infrastructure and the maximum expansion of mobile telecommunications provision,
- Successful application to the federal government as one of the 5G model regions,
- Creation of free, public Wi-Fi connections,
- Transformation and safeguarding of energy infrastructures,
- Further expansion of the geodata infrastructure,
- Transformation of IT infrastructures in state and local authority administration,
- Creation of further prerequisites for the implementation of the Online Access Act through the provision of free basic IT components.

Field of Action:

New Digital Services of General Interest

The government is pursuing the goal of offering people in the state of Brandenburg the same living and working conditions, irrespective of whether they live in densely populated or rural areas. Especially in the digital age, the availability of the relevant infrastructures determines access, participation and the capacity for progress of whole regions. The constitutional framework conditions only grant the states limited scope for creating, for example, their own telecommunications infrastructures. This means that it is all the more important to use all other available instruments to realise comprehensive and high-quality provision in Brandenburg, together with all stakeholders. The question of digital participation is also a question about a new understanding of services of general interest in the political sense. For the government, there is no question that high-performance infrastructures that offer blanket coverage are the precondition for all digitalisation activities.

Basic digital infrastructures are diverse and go far beyond broadband and mobile coverage. With a view to the digital future, the government is thinking in terms of cross-sector supply networks: from classic digital infrastructures to energy and administrative networks.

With the new digitalisation applications, new demands on data volumes, latency times, availability and network utilisation etc. are emerging. Moreover, applications are no longer only used in households or workplaces, but also on transport routes, in fields, on lakes and in forests. More and more objects communicate with each other far away from households, e.g. in agriculture and forestry or in environmental research.

Broadband and Mobile Telecommunications

To do these demands of the future justice, the government is pursuing a harmonised mixture of technologies comprising wired and wireless infrastructures. The government is aware that the efficiency of digital infrastructures must be constantly updated and is, therefore, an ongoing task. Technological standards change quickly, which is why the government is committed to achieving the best possible provision for Brandenburg, especially in rural areas, independent of technology.

To complete the overall financing of broadband expansion with federal funds, Brandenburg will continue to subsidise these efforts with state funds. In this context, efforts will have to be made at the federal level to ensure that the proportionate subsidisation places a justifiable burden on the state budget.

Mobile data use is undoubtedly the topic of the future. For the foreseeable future, high-performance mobile telecommunications of the latest generation will only be possible in relatively small cells, with stations that have to be

strengthened with fibre optics. This requires not just an intelligent frequency allocation policy, but also harmonised land use planning. While in the past digital infrastructure expansion concepts were strongly household oriented, today traffic route and area orientations are more important than ever.

In the years to come, stringent coverage obligations will apply to mobile telecommunications companies in fourth generation mobile telecommunications (4G/LTE), so it can be assumed that the “dead spots” that still exist will be closed successively. To achieve the state policy goal of improving mobile communications, even in sparsely populated regions, the Brandenburgian Ministry for Economic Affairs and Energy, the Brandenburgian Ministry of the Interior and the three large mobile telecommunications providers Telekom Deutschland GmbH, Telefónica Germany GmbH & Co. OHG and Vodafone GmbH concluded a mobile telecommunications agreement in May 2018. In the agreement, the signatory mobile telecommunications companies declared that, using the latest technology and in a technology-neutral manner, they would make their contribution to ensuring the widest possible mobile telecommunications coverage in Brandenburg, irrespective of the coverage requirements of frequency auctions. The following steps have been agreed:

In the coming years, Brandenburg will erect new radio masts at up to 32 locations agreed with the telecommunications companies for the digital radio of the state authorities and organisations with security tasks (BOS). These radio masts will be made available to the mobile telecommunications companies for shared use rent-free due to the special economic conditions in the less populous regions. The building and operating costs incurred must be borne by the mobile telecommunications companies. The Brandenburgian Ministry for Economic Affairs and Energy undertakes to set up a clearing centre to coordinate the interests of the mobile telecommunications companies, the BOS digital radio communications and the municipalities concerned.

For digital access in municipal public spaces and state properties, the supply of free, publicly accessible Wi-Fi is also being expanded.

With a view to the near future of mobile telecommunications provision, the government is focussing on the introduction of the next generation mobile telecommunications, 5G. It is committed to making Brandenburg one of the first German model regions for the introduction and use of 5G technology and is addressing the technical and financial demands that 5G development will entail.

Energy

In recent years, digitalisation has also become an important issue for the future of energy provision. The government is committed to the European and national climate policy objectives, a socially acceptable restructuring of the energy supply and strives for climate-friendly energy production. These objectives and, especially, the associated changes in the energy mix and energy supply, require smooth communications in real time. The energy supply companies and the growing European electricity market rely on increased digitalisation to make energy supply efficient and to prevent capacity bottlenecks. Brandenburg is a historically evolved energy region and makes important contributions to the security of supply in Germany. As a large and sparsely populated state, Brandenburg will remain an important energy region in the energy transition. However, the increasing share of renewables is leading to a rapidly growing decentralisation of electricity generation. Added to this is the fluctuating feed – especially of wind and solar energy – that makes increasing control of the entire system and the expansion of intelligent electricity grids and sensors necessary to better harmonise generation and consumption and thereby contribute to supply security.

The European and German frameworks (e.g. Act on the Digitalisation of the Energy Transition) have created the legal prerequisites for increasing digitisation among energy supply companies and consumers. At state level, the focus in Brandenburg is on energy-efficient solutions for the production, distribution and use of energy. The State of Brandenburg Energy Strategy 2030 addresses these issues appropriately and will make important contribu-

tions to them. Citizens will also be increasingly included in this development with new concepts for “smart buildings” and “smart homes”.

Digitalisation is explicitly enshrined in the new master plan of the Berlin-Brandenburg Energy Technology cluster from 2017 with the aim of promoting appropriate business models at an early stage. There are also interfaces to the mobility sector and to other industrial clusters, in particular to the metal sector and the plastics processing and chemical industry with their energy-intensive processes. In the mobility sector, there is potential for digitalisation, not just in the continued implementation of electric mobility (e.g. intelligent charging technologies), but also by means of alternative sustainable fuels (sector coupling) and innovative transport concepts.

Geodata

Reliable geodata is part of the information infrastructure for digital applications. Special maps, graphic representations and services can be developed from the networking of spatial position data. The government sees great potential for modernisation here. Geodata is generated, processed and made available in a number of state administration offices, e.g. in the environmental office (maps of water bodies), to illustrate land use or in building management. A further bundling of technical, administrative and other services will be necessary in the digitalisation process. The LGB (State Survey and Geo Information Brandenburg) will provide support for establishing and performing central and interdisciplinary GIS tasks (geographic information system). The further expansion of the geodata infrastructure will be supported, in particular via the “Geodata Infrastructure Brandenburg” plan of action (GDI-BB Plan of Action). This also takes the objectives of the National Geoinformation Strategy (NGIS) into account, which has the aim of developing a nationwide sustainable and future-oriented geoinformation policy.

The provision of the central technical components of the GDI-BB (Geoportal Brandenburg, collection and provision components for metadata (GeoMIS), collection and testing components for metadata (ProMIS-Online)) is of fundamental importance here.

In this context, the “Geoportal Brandenburg” is being revised as a central component of Brandenburg's geodata infrastructure. The aim is to enable even easier and more direct access to the state's spatial digital data. The Geoportal also makes geodata available on the internet as standardised online interfaces, so that all administrative processes (e.g. building applications, designation of protected areas, funding applications, crisis management, etc.) can integrate the necessary geodata simply, digitally and without delay into the processes which are to be digitalised.

Modern Accesses for Administration and Justice

Infrastructure as a basis for digitalisation also affects levels of administration. The government, state institutions and municipalities also require a modernised and developed IT infrastructure as the basis for digital administrative applications. This entails high demands on availability, range of functions and data security.

The offices of Brandenburg's state administration are already connected via a highly reliable and secure network. It forms the backbone for comprehensive, state-wide electronic communications. Electronic data exchange and the operation of electronic applications and (online) processes are realised via this network. At the same time, the state administration network (Landesverwaltungsnetz - LVN) guarantees a secure – BSI-certified – transition to the federal connection network, which connects the IT networks of the federal government, state governments and municipalities to each other. The LVN is also made available to all of the municipalities in the state for their electronic business transactions (LVN municipalities' specialist network). The standardised and secure connection via the LVN municipalities' specialist network allows the connected municipalities to access state and federal government services and applications.

The focus of this task is the systematic, comprehensive, interface and above all demand-oriented upgrading of IT capacities. At the same time, constitutional requirements on the division of powers must be observed. For this reason, a dedicated IT infrastructure that must satisfy the highest demands is being established for the increasingly digitalised legal system. Universities are addressing these requirements through cooperation in the field of administrative IT development. In this way, the high quality standards can be met and – at the same time – the entire portfolio of administrative IT services can be used by all the universities.

The local authority level plays an important and special role in the digitalisation process. The State of Brandenburg provides state and municipal authorities with free, uniform and secure central technical components for the implementation of the Online Access Act (Onlinezugangsgesetz - OZG). The electronic identification management (eID service) that is offered, Brandenburg's electronic tendering platform or a state service portal with service accounts can also be understood in a broader sense as a future basic infrastructure.

Selected Brandenburg Government Measures

- 1) Provision of state funds to complete the overall financing for federal broadband development and implementation support for municipalities.
- 2) Building up to 32 additional radio masts for BOS digital radio that can also be used by the mobile telecommunications companies. Support for Brandenburgian applicants in the federal government competition in the context of the 5x5G Strategy.
- 3) Equipping public locations, state and local authority properties as well as municipally and touristically relevant public spaces with a total of roughly 1,200 Wi-Fi hotspots, which will go into operation successively from mid-2019, and guaranteeing their financial security for five years of operation.
- 4) Providing state and municipal authorities with free, uniform and secure central technical components to implement the Online Access Act.

b. Learning and Digital Literacy for Brandenburg's Future

Aims of the Brandenburg Government:

- To strengthen digital skills and achieve digital sovereignty,
- To prepare children and young people for the digital world in good time,
- To reinforce educational successes with the aid of digital teaching and learning formats and innovative education,
- To promote media skills as a basis for careers and personal everyday life,
- To adapt all educational institutions to the digital transformation,
- Establishing open access at educational institutions,
- To strengthen further education and lifelong learning,
- To use digital media in basic, further and continuing training.

The Field of Action:

Digital Literacy

Digital skills are the key to being able to navigate a digital world with confidence. This means much more than just the technical skills needed to operate terminal devices. Classical cultural techniques of (lifelong) knowledge acquisition, critical information evaluation, securing and passing on knowledge must be transferred to the digital age. This poses major challenges for traditional education systems.

Rapid technological change and short innovation cycles in the digital world make lifelong learning essential for every citizen across every age group. The aim of the government is to adapt all educational institutions – schools, universities, youth work institutions, libraries, vocational schools and the inter-company training centres of the chambers of commerce, adult education centres, museums and educational institutions – to the topics of digitisation in order to lead citizens to digital sovereignty. Digitalisation must be considered and implemented in every area of education – from childcare centres to further training offerings. In the schools sector, the qualification of teaching staff is of central importance. Here, the intelligent combination of real and virtual qualification (blended learning) is a pioneering approach. Added to this are innovative concepts of state cooperation in the context of implementing the Conference of Education Ministers Strategy “Education in the Digital World”. Parallel to this, there must be practical implementation in lessons to prepare pupils for current demands.

Digital Education/Education in the Digital World

The debate surrounding digital education in general school education is too often limited to technical equipment. But an interactive board alone, for example, does not make a good lesson. Rather, the instruments of digitalisation can help to make education more contemporary and individual. It is clear that people are at the heart of digital education and technical equipment will always be chosen as a tool on the basis of educational aspects.

Educational stakeholders face the challenge that educational content is becoming more complex. World knowledge is growing exponentially; techniques and applications go through extremely short innovation cycles. On the other hand, it has never been easier, more individual and more intuitive to access educational content. Almost everything can be accessed with a smartphone; from anywhere and in a fraction of a second. The government sees this as an opportunity to democratise education and knowledge with the right skills. In this way, digital education enables comprehensive participation and orientation in the digital world.

The government will use a variety of instruments in the education of the future: digital media, education platforms such as the school cloud and online courses are tools that can promote accessible education as well as joint learning with different educational goals in the sense of an inclusive, holistic and at the same time individual edu-

cation system. The participation of Brandenburgian schools in the Hasso Plattner Institute's school cloud pilot projects is pioneering here.

Digital education is relevant for all age groups. Children and adolescents come into contact with digital applications at ever younger ages and have to develop digital skills all the earlier. Digital instruments can (with the relevant educational support) help to support age-specific developmental tasks and the necessary identity development of the young generations.

In the field of extracurricular youth education, participation and orientation in the digital world will be made possible for young people. New media-based forms of communication and mediatization characterise their worlds and change the framework in which young people complete their age-specific developmental tasks and the development of their identities. Funding technical equipment at youth leisure facilities and the youth information and media centres (YIM) are particularly important here.

The digital education of younger generations can only succeed with appropriately trained specialist staff. Here, the government, in cooperation with schools and training universities, sets the greatest store in the qualification of teaching and specialist staff. This is the only way that children and young people can be prepared for the demands of the working world at an early stage and acquire comprehensive media and digital skills, as early as when they attend their first educational establishment. Furthermore, the use of digital forms of teaching and learning in school education means being able to respond more to individual learning paths and speeds and to ensure participation in acquiring information.

Lifelong learning for adults enables a steady continuation of digital education. Digitalisation requires citizens to continually develop new skills and update existing knowledge. Offers for digital education in further training play a key role in this. For people who left school long ago, further training also lays the foundations for digital education. In large and sparsely populated states in particular, it makes sense to test and use digital media and formats in education, training and further education (such as blended learning or webinars).

Digital Vocational Training

The requirements for the abilities, skills and knowledge of specialist workers are changing as the digital transformation progresses. This development must already be reflected in training to enable future skilled workers to successfully manage current and future professional situations. Teachers at training companies, "inter-company training centres" and educational institutions play a key role in passing on knowledge and skills so that learning is also possible in a company-specific way and in real operational work and production processes. It is the responsibility of training personnel to identify the possible impacts of digitalisation and the necessary qualification requirements. They have to support and encourage learning processes in companies, especially with regard to new requirements and digital skills. Corresponding digital learning and teaching methods must be developed and employed at the various learning venues (vocational school, training centre, training company) and the (company) teaching staff qualified accordingly. With the help of supplementary qualifications, important digital skills can be taught in dual education courses at short notice and apprentices can be prepared for the digital working world in various jobs.

Digital Universities

Digital transformation has long since been a key issue at universities, too. For some time now, the relevant stakeholders have been devoting themselves to the digital future with appropriate methods and concepts. The government believes that a didactically targeted expansion of digital teaching and learning formats will enable new target groups to gain access to academic education. Teaching can be tailored to individual learning conditions and speeds and new possibilities for the transfer of skills for a digitalised world of life and work open up. Digital teaching and learning forms also intensify exchange and networking, so that a culture of cooperation and innovation among students is awakened or strengthened at an early stage.

In research, too, digitalisation increases the performance of Brandenburg's universities and helps them achieve greater visibility. The development of an open access strategy will create a state-wide basis for the promotion of open access publications. This will facilitate global access to digital research results and publications from any location.

Brandenburg's government, together with the education and teaching landscape, will create specific models and platforms that do justice to digital education in a broader context. In addition to digital basic, further and continued training, there will be interlinked education platforms that ensure that education and the acquisition of skills meet the highest standards of the digital world.

Selected Brandenburg Government Measures

- 1) Creation of a "Digital Education Platform School Cloud" to support teachers and pupils with an open digital education media infrastructure.
- 2) Interdisciplinary integration of media education in teaching. The funds from the "media fit" programme will permanently enhance the quality of teaching.
- 3) Promotion of process support for digital dual education. The funds are to be used to qualify training providers and training personnel for in-company digitalisation requirements to ensure the quality of vocational training.
- 4) Teaching digital skills through additional qualification in dual vocational training within the framework of the directive on qualified training in the network.
- 5) Promoting Brandenburg's universities as drivers of innovation and trainers of digital pioneers in new courses such as Digital Health, Data Engineering, Cyber Security or eBusiness.
- 6) Supporting e-learning concepts at the universities as well as open access literature.

c. Supporting Digital Transformation in Business and Work

Aims of the Brandenburg Government:

- Using the sector specific transformation of business to the benefit of the Brandenburg metropolitan region,
- Intensifying cooperation between business and science,
- Expanding on Brandenburg's pioneering role in digital forestry and agriculture,
- Expanding the digital health sector,
- Shaping the transformation of the digital working world in the sense of "Good Work",
- Training, retaining and acquiring specialist staff and preparing them for the demands of a digital working world,
- Strengthening vocational further training,
- Improving the digital skills of employees in state administration.

The Field of Action:

Business 4.0

Business is developing inexorably and in all sectors towards Business 4.0. Networked data, production and distribution routes affect even the smallest retail or skilled trades companies. The digital transformation leads to both evolutionary and disruptive changes in the markets while simultaneously creating new services, products and business models. Existing value-adding structures are broken down and new ones are created. The innovative force of digitalisation can be seen both in process changes and product variety. At the same time, the pressure to adapt to developments in order not to be forced out of the market is extremely high.

Overall, the government sees excellent growth and modernisation opportunities for the state in these developments. It will actively support Brandenburgian business in the transition to Business 4.0. In particular, the patchwork structure of business in Brandenburg requires coordinated and joint efforts. A very decentralised, patchwork structure can, however, also be advantageous for testing innovations and implementing changes quickly. At the same time, small business units (working at full capacity) often lack the capacity to deal with change processes in a structured way. This is where sound external advice is needed, which has been provided by various stakeholders over the years and which must be further expanded and consolidated in the years to come. The government supports modern forms of innovative cooperation between companies, such as co-working spaces, as part of the federal-state programme "Improving the Regional Business Structure (Verbesserung der regionalen Wirtschaftsstruktur – GRW)".

In the field of digital economic policy, the Brandenburg government is strongly committed to the Berlin-Brandenburg metropolitan region as a regional innovation ecosystem and will introduce specific Brandenburgian emphases. For the future, the government is striving for resolutions for cooperation between Brandenburg and Berlin to support the process. It will intensify interministerial cooperation and cooperation with business development agencies, which are responsible for cluster management. This process is designed to be participative, involving companies, networks, universities, research institutes and social partners (chambers of commerce, unions and business associations).

Culture of Innovation

A prosperous digital future for economic policy can only be achieved through a growing culture of innovation in Brandenburg. For this, the government will intensify cooperation between business and science. All the universities in Brandenburg and various extramural research institutions have outstanding expertise on various aspects of digitalisation. This expertise will be linked with Brandenburgian companies as effectively as possible and according to demand in order to catch up with other German regions in the areas of research, development and innovation. This structured transfer of knowledge and technology between business and science will also play a major role in the cooperation with Berlin.

In particular, Berlin's successful model, the "Einstein Center Digital Future", which bundles skills and created a significant number of new digitalisation professorships will serve as a template. In line with this model, incentives will be created to bring together universities, extramural research institutions and private companies to jointly fund research, network existing skills and prepare research results in such a way that they can be transferred to Brandenburg's economy. The thematic focuses of this research funding will address the increasingly interdisciplinary needs. This will create a basis for the best possible support for Brandenburg's economy, for example, in the fields of smart cities, smart mobility, digital diagnostics or artificial intelligence.

It is clear that even tried and tested structures will have to be continuously questioned and adapted in light of the digital transformation. The government will therefore identify possible cross cluster potentials between the sectors to encourage the formation of future markets and innovations. This will be done with the involvement of the cluster stakeholders, but also with the transfer centres at the universities and research institutes and the centres of expertise for digitalisation. The government will always monitor the market and current trends, create transparency between the various competencies and involve companies in an active participation process.

Digitalisation affects different sectors of the economy in different ways. Nevertheless, neither global development nor progress can be stopped. However, the government takes the concerns of individual sectors very seriously and, where necessary, will provide specific help for the digital structural change. At the same time, strong stakeholders will be strengthened and digital pioneers will be helped develop their supra-regional appeal.

Start-ups

The government supports start-ups and the growth of start-up companies by providing venture and equity capital. The finance instruments support young innovative companies by strengthening the equity base. In the start-up phase and for the first follow-up finance, loans without security of up to 25,000 euros can be provided as a micro-loan. With the early phase fund, the government aims to strengthen the competitiveness of start-up companies with an innovative or technological focus by strengthening and securing the equity base. Depending on the capital requirements and liquidity situation of the young companies, there are open participations in combination with subordinated loans of up to 1.2 million euros. The participation of private co-investors is not necessary in this first company phase. In the growth and expansion phase with higher capital requirements, investments in technology and product development and in the growth of companies are financed, in particular, by open participations and quasi-equity investments (including subordinated loans) of up to 3.9 million euros. For digital start-ups in particular, time to the market is the critical factor for success. For the fast scaling of the business model there are regular high capital requirements, which cannot currently be satisfied by borrowed capital from co-financing banks and/or via the provision of private venture capital.

The financing instruments set up by the government at the Investment Bank of the State of Brandenburg (ILB) therefore aim to support and accompany young innovative companies in the founding and growth phase by providing a set of state financing instruments. The existing supply gaps on the capital market are addressed by these financing instruments in a targeted fashion by providing public venture and participation capital. In the growth phase, public subsidies also regularly leverage the capital of private investors.

In the media sector, traditionally a strong driver of innovation, start-ups play an important role in the digital transformation, which is why there is a particular focus on the development of innovative business ideas, their support and finance in Brandenburg (see, for example, “Media Tech Lab”). Further initiatives to boost settlement activities and the use of existing and new office space for coworking purposes are also planned, particularly in the centre of Brandenburg's media industry, the media city Babelsberg.

Agriculture, Forestry and Water Management

The government sees especially great potential in the already highly innovative and digitalised agriculture and forestry sectors, which with their ecological responsibility represent not only economic strength but also the cultural capital of the state. This is precisely why the further development and ongoing modernisation of these sectors of the economy are an important concern for the government. This includes digitally integrated value creation chains, especially in the agricultural and food industries, which are expected to continue the positive development of the associated operations. It will support companies in building digital applications for operational optimisation and resource-efficient management as well as for the protection of the environment. The use of the latest drone, measuring and sensor technologies to improve yields, protect nature and the environment, adhere to standards and environmental requirements and to avert risks (forest fires, pests) must be expanded according to demand. Water management data is also currently being presented in an interdisciplinary information system. In the fields of water and flood protection, the recording and presentation of relevant data are being improved. This gives the interested public the opportunity to obtain comprehensive and uncomplicated information about water management conditions. The provision of data for regulatory authorities will simplify and speed up procedures.

Brandenburg has a realistic chance to attain nationwide and international exemplary status in digital forestry and agriculture, not least due to its networking with a strong research landscape. However, it must also be ensured that innovative developments can be publicised and exploited quickly and widely. Improved compatibility between machines and accessories made by different manufacturers can contribute to this.

The change in agricultural and forestry jobs is already well advanced and shows that tradition and innovation are not mutually exclusive. Nevertheless, efforts are still needed to enable qualification and further training and, in particular, to strengthen data processing skills.

Other Sectors

Digitalisation processes will also be supported in other sectors:

- The health sector in Brandenburg is one of the state's job creators, as the unabated growth in the number of employees impressively demonstrates. It is characterised by a strong supply landscape and a broad spectrum of different production and service processes. Digitally supported health services are promoted intensively by the government in cooperation with the health sector cluster for the good of Brandenburg's patients and for the benefit of the companies. The government is therefore focusing on innovation in this area. New value creation and supply chains are identified, their implementation tested in the state and the framework conditions for their implementation demonstrated.
- In the construction industry, the aim is to simplify and accelerate procedures as well as digital planning and construction processes in order to enable an efficient handling of construction projects that uses resources sparingly.
- Brandenburg wants to remain a national media location and advance the interdisciplinary networking of various specialist areas in the media industry. In 2017, Potsdam was honoured as "Media Tech Hub Potsdam" in the Federal Ministry for Economic Affairs' "Digital hub" competition, and is the only one of the twelve digital hubs in Germany that focuses on media technology. New digital methods for data processing, utilisation and media production are developed and implemented on the basis of the moving image and IT expertise developed at this location. The MediaTech Hub Potsdam bundles innovations from digital media and digital engineering and with these innovations opens up new customer segments beyond the boundaries of the media industry, e.g. in the industrial sector. The innovation cluster "Volumetric Capture Studio Babelsberg" and the research project "dwerft2" funded by the Federal Ministry of Research understand themselves as part of MediaTech Hub Potsdam and reflect the breadth of activities in Potsdam. Future activities will increasingly focus on developing, supporting and financing young entrepreneurs with a media technology bias.
- To strengthen Brandenburg's tourism industry, the government intends to consolidate the digital skills of the relevant stakeholders, further develop the content and technological quality of digital communications and make relevant guest information available via digital access points and media. Digital technologies can generate innovation processes between tourism and other industries, e.g. as a basis for intermodal mobility solutions or for intelligent customer relationship management.
- Brandenburg believes it is necessary to implement digitalisation processes as early as during the foundation of companies, irrespective of the sector, and will take this into account in its advisory structures.

Good Work in the Digital World

Economic strength and the quality of services and administration depend on the people who provide the necessary labour. One thing is clear: digitalisation is changing the working world for employees in all sectors permanently. Jobs, job descriptions and careers will be subject to a major change. Changing job profiles entail both opportunities and risks. Some traditional jobs will modernise radically, other jobs may become less important and new jobs will be created at all levels of qualification. At present, it can be assumed that in the medium term losses and increases of jobs on the Brandenburg employment market will more or less balance each other out. The statement that there is a considerable need for every employee to learn and acquire knowledge throughout their working life is already generally valid today. Well-organised further training and qualification programmes therefore offer excellent prospects for dealing with this process of change successfully.

Digitalisation also offers excellent opportunities for highly individualised work, focused on location independence, flexible working hours, maximum work-life balance, accessibility, etc. At the same time, there is also a risk of blurring boundaries, excessive demands, pressure to adapt, the erosion of labour standards and the precariousness of digital services. Working in a digital age requires a good balance between more flexibility, independence and a great deal of densification and being permanently available. Collective bargaining and company agreements are the best possible way to protect employees against the negative consequences (blurring of boundaries and excessive demands) and to harmonise possible wishes for self-determination with the companies' wish for flexibility.

For a long time, the focus in Brandenburg was primarily on high unemployment, but this problem is now being replaced by the issue of a shortage of skilled workers. In addition to the industries that are already looking for young talent, the digitalisation process is also creating a sharp increase in the demand for skilled workers, especially in knowledge-intensive services.

Digitalisation should not be confused with automation. While automation indeed raises big questions with regard to rationalisation, digitalisation is supposed to strengthen the human factor in work through networked, individualised and simplified workflows. In the digital world, too, the government is focusing on the human contribution of value creation. Digitalisation should be understood as a work support that frees capacities for the true talents of human beings compared to machines: communication, social interaction, analysis and evaluation, and being creative.

The government explicitly endorses the values of "Good Work" and will transfer them to the digital working world. The shared goal of all stakeholders on the labour market is to make employment in Brandenburg highly attractive. This contributes to a high level of employment and to safeguarding the companies' demand for workers and skilled workers. To this end, processes of co-determination and working environments that promote learning and health are created for employees and the social partnership in Brandenburg is strengthened. The innovation potential of digital technologies can only be exploited if the social environment is also taken into account and appropriate changes are made in the organisation of processes and work, e.g. to make it easier to reconcile work and private life.

Further Training in the Digital Age

The need for skills in the working world of the future will grow enormously. The commitment of companies and employees in Brandenburg to further training is traditionally high and must be retained in the wake of digitalisation. Moreover, the government wants to encourage further training and qualification schemes for the unemployed because they are an important potential in times of shortages of workers and skilled workers.

The digital change process in the working world will indelibly shape employees' working biographies and demands more commitment to further training than in the past. That is why the development of lifelong careers advice from the Federal Employment Agency is also important in the state of Brandenburg. In addition to the individual perspective of training needs, there is also a focus on the operational requirements for employees' digital skills. From the point of view of the companies, appropriate qualifications and skills must be available in order to secure their competitiveness and be highly innovative.

In addition to technical expertise, process knowledge, interdisciplinarity, communications expertise and the ability to act independently are increasingly important. The comprehensive WFBB Study "Labour 4.0 in Brandenburg" clearly proved this in 2018. Technical skills alone are not enough to be able to steer digital processes successfully.

With increasing digitalisation, "learning by doing" and "learning on the job" are becoming more important and working and learning processes are merging. In Brandenburg, the structures for vocational and in-company further training are very strong. It is necessary to take advantage of and to further expand this structural strength

with respect to the specific challenges of digitalisation. There is a strong demand for adequate contents, methods and formats, which also take account of the combination of working and learning in the company for all employees. This task is primarily the responsibility of the further training providers in the state. The government is lobbying the federal government for (federal) support in the qualification of training staff and the (also federal) necessary investment in the technical, digital equipment of training service providers and encourages vocational and in-company further training of employees within the context of the Further Training Guidelines.

Selected Brandenburg Government Measures

- 1) Supporting SMEs within the context of the support guidelines “Brandenburgian Innovation Voucher” (BIG Digital) for the preparation and implementation of digitalisation measures within their own company and for training their own staff.
- 2) Creating central contact points for small and medium-sized Brandenburgian companies, introducing digital pilots in all three districts of the Chambers of Industry and Commerce in close cooperation with the Chambers of Trade.
- 3) Encouraging the production of innovative and interactive audiovisual content, such as games, transmedia or virtual reality through the Medienboard Funding Programme.
- 4) Further development of the central tourism databases on the “ContentNetzwerk Brandenburg”.
- 5) The foundation of digital, innovative companies will be supported by the “Innovations need Courage” (Innovationen brauchen Mut – IbM) with individual and specific advice and training and individual and specific coaching.
- 6) Development of targeted basic and further training offerings to counter reservations about new digital solutions. Development of a comprehensive job portal for applicants to agricultural training companies.
- 7) Utilisation of transfer posts at universities and extramural research institutions as well as cluster management to promote the exchange between industry and science/research. Also, continuation and build-up of specially aligned competence centres.
- 8) Establishment of a “Regional Future Centre” to shape the digital transformation in the working world in the interests of Good Work.
- 9) Support for vocational further training measures to implement digitalisation and skilled worker retention in Brandenburgian companies and sectors within the context of the Further Training Guidelines.

d. Attractive Living in Brandenburg

Aims of the Brandenburg Government:

- Utilising digital technologies to create functional and attractive cities,
- Allowing rural areas to benefit especially from digitalisation,
- Making local public transport more attractive with improved connection information and digital sales forms,
- Making transport safer and overcoming distances with new, intelligent mobility,
- Encouraging new forms of working and living and a modern family policy,
- Extending digital measures to medical provision and care,
- Exploring and conveying cultural heritage and cultural life digitally,
- Making the cultural heritage of film accessible digitally.

The Field of Action:

Attractive Towns and Rural Areas

Quality of life for citizens far transcends the private situation of the individual. An attractive environment for living, working and leisure also plays an important role. Urban structures, the design of city centres and the provision of infrastructure and services of general interest, such as public transport, play a decisive role in determining the attractiveness and quality of life in cities.

The profound effect of digitalisation on people's everyday lives will also change our towns, villages and settlements structurally, architecturally and functionally. The digital transformation of towns and neighbourhoods can already be observed, e.g. in the impact of online retail on high street shops in town centres and internal local delivery traffic. Digitalisation will also create new services, such as coworking spaces or intelligent parking management.

Digitalisation offers many opportunities to make use of changes that may be triggered by it to increase the attractiveness, quality of life and innovative strength of towns and villages. For example, entire neighbourhoods can be developed to be resource-efficient, have a low carbon footprint, to be generationally fair and demographically stable through integrated urban development planning. Town centres can also be strengthened as points of identification and in their function for the town. Digital technology can be used to mitigate spatial restrictions and, for example, improve access to health, education and administrative services. Digitalisation can thereby improve the functional interconnection of the town and its environs and strengthen the function of towns as regional anchors.

The government will work to ensure that the digital transformation within Brandenburg's towns and districts is geared to public interest and makes a contribution to creating attractive towns and cities that are worth living in as well as sustainable urban structures that are generationally fair.

The Digital Strategy for Brandenburg is also a strategy for rural areas. Rural areas in particular can benefit from digitalisation and the government will set the course accordingly. Social spaces in Brandenburg vary greatly – from single farms, villages and small towns to the medium-sized centres and independent towns as well as the communities in the immediate vicinity of Berlin. Added to this are strong demographic and migration-related change and densification processes. For all living spaces in Brandenburg, equal living conditions must also be facilitated in the digital world. Services of general interest must be reformulated in the digital age. The government's response to developments in living spaces must be both demand-oriented and networked.

With its nature and open spaces, Brandenburg represents a place of retreat and recreation to many people, and provides inspiration for new ideas. Rural areas are becoming more important and are increasingly attractive as places to live and work, especially for younger generations. However, rural areas by their very nature are characterised by long distances. Especially in the fast-paced digital age, the time taken to commute to work or visit the

doctor is a key factor in attractiveness. Mobility therefore plays a central role in shaping the future and the prosperity of a region. The aim is to bridge distances in every respect using digitalisation.

Mobility

The mobility of people, products and goods is an important prerequisite for the functioning of our economy based on the division of labour. Mobility facilitates access to high-quality jobs – increasingly independent of the place of residence - but also permits a wide range of goods to be offered nationwide and makes long-distance travel and tourism possible. The perceived shortening of geographical distances is a matter of course today and will progress further in the digital future. The capital region of Berlin-Brandenburg in particular will continue to benefit from its good regional and international connections in the future - as the third-largest air traffic location in Germany and equipped with a large network of trunk roads, railways and waterways. Digitalisation will be instrumental both in individual transport and logistics, to ensure that capacity is utilised to meet demand and that new applications are developed.

It must be remembered that transport by road, rail, air and sea also causes considerable ecological, social and economic burdens – for example through the emission of air pollutants, noise or traffic jams and accidents. According to visions, a further increase in traffic is to be assumed for the future. To ensure that traffic burdens for people, the environment and climate do not increase further, the government is advocating a digitally supported transport transition towards a system in which most routes can be comfortably travelled by rail, bus and bike, or on foot.

Digitalisation will not only contribute to the networking of transport services with the aid of improved, integrated timetable information, but will also help to permanently reduce the traffic burden on people and the environment through innovative mobility services. At the same time, innovative offers such as digital sales (electronic tickets, mobile phone tickets) can increase the attractiveness of local public transport.

Traffic will change dramatically not just in town but also in rural areas as a result of new digital technologies. In the area of mobility and transport, digitalisation offers the state of Brandenburg unique opportunities to increase road safety, reduce negative impacts on human health and improve the performance and quality of public transport services. The government actively supports the digitalisation of mobility and transport, thereby creating the framework for the mobility of the future. In accordance with the “Mobility Strategy Brandenburg 2030”, the government is supporting intelligent and networked mobility for people, products and goods by planning, supporting and implementing digital solutions.

As a result of major social change processes, including changes in mobility behaviour ("sharing" mobility rather than "owning" it), new possibilities afforded by networked communication and the increasing consideration of individual mobility wishes made possible by digital assistants, new, increasingly flexible and needs-based transport services are becoming both feasible and necessary. Flexible, user-oriented solutions using mobile apps or online platforms are becoming increasingly popular.

Self-driving (autonomous) vehicles and intelligent transport control using detailed transport data and complex calculation algorithms can help to significantly change the status quo in local public transport and personal transport. This is also an opportunity to improve the connectivity of rural areas. For example, in an innovative pilot project, a self-driving minibus is to be tested in the Ostprignitz-Ruppin district in a roughly two-year trial period. It is to act as a shuttle service to existing local public transport. The aim is to test dispersion in rural areas with innovative forms of service. In the test period, however, the bus will be monitored by a well-trained, human operator.

Digitalisation will also lead to new competition in air, water and land-based freight and goods transport routes and systems, with changed supply chains and significantly shorter delivery times. To enable a resource-efficient, low-noise and low-emission movement of goods and products in the future, today's logistics chains must be reviewed

from the bottom up and be adapted to the new opportunities offered by digitalisation. In this context, Brandenburg will also consider the many waterways. One example of this is the digitalisation of waterway logistics. In the future, the federal government wants to set up Germany's first digital test field of internal shipping on the Spree-Oder water route. In future, companies will be able to test intelligently networked push-tow systems or highly automated barges there.

Health and Care

The advantages of Brandenburg's residential areas also depend on comprehensive medical provision and care. Long distances often make access to health care more difficult. Simple and attractive access to health services benefits all generations that live or will live in Brandenburg in the future.

The digital transformation of the health care system is already under way; telemedicine and other e-health applications are being employed. Products, work processes, resources and the demand for staff and qualifications are changing in every sub-sector of the industrial health industry (e.g. medical technology and diagnostics) thanks to the advent of digital innovations. At the same time, the work processes of all those involved in the supply chain are changing and require, among other things, new types of value creation networks. This makes it possible to design workflows in such a way that – in the best case scenario – networked and automated documentation, for example, leave more time for the needs of patients.

Particularly in rural areas such as Brandenburg, care can only be guaranteed in the future through the close integration of the various care sectors (prevention, outpatient and inpatient care, aftercare, nursing care and rehabilitation). In this context, there is a great need for information and communication, which cannot be met without using digital networks as quickly as possible.

In order to make better use of the rapid development of technical and medical innovations to treat and care for people in Brandenburg, the use of digitally supported health services is being intensively supported by the government in cooperation, in particular, with the health care cluster, municipalities and administrative districts, as well as the cost bearers. The aim is to provide equal care in every part of the state.

The government has set itself the ambitious task of guaranteeing nursing care in the coming years. The number of people requiring care will grow significantly in the years ahead. Digital innovations can help master this task today and in the future. The aim is to exploit the opportunities offered by modern technology for self-determined living and care for older people.

Digital applications, such as emergency call systems, mobility aids and sensor technology, make living in your own four walls safer, support independent living for older people and people who require care and make work easier for family members and professional carers. In care homes, digital support systems can free people from routine work, e.g. care documentation, and contribute to improving care. Ethical and safety-relevant aspects must not be ignored. What is needed is an open assessment of the opportunities and risks and an orientation of the use of digital applications to the needs of those in need of care and nursing staff.

The government supports the exchange of experiences regarding the practical application and future possibilities of digital technologies. The active participation of nursing practice and nursing sciences in the development and introduction of technologies are essential elements for the successful management of the digitalisation process in nursing. The State Care Committee has included digitalisation as a focal point in its work planning. Digitalisation will change the demands on nursing staff and the organisational structures in nursing. This change will be taken into account in training and further training in the nursing professions.

The joint Digital Engineering Faculty (DEF) of the Hasso Plattner Institute (HPI) and Potsdam University has set itself the goal of addressing the challenges of digitalisation in its courses. As part of this, starting in the winter semester of 2018/19, digital health specialists will be trained who will be able to analyse the changes brought

about by the advance of digitalisation in medicine and health care and design and implement suitable IT systems at the interface between IT, computer science and medicine.

Families, Children and Senior Citizens

Family policy is one of the most important topics for the future in Brandenburg. For most people, families are the focus of their lives. Here people take responsibility for each other, raise children and care for relatives. The government has long supported family-friendly infrastructures, excellent educational opportunities from an early age and sound information for parents to ensure that children have a happy and healthy upbringing through its Family and Children's Policy Programme. It is important to continuously develop this commitment for a family-friendly life in the state.

State and civil society stakeholders must be guided in their efforts to make the best possible use of the opportunities for families associated with the digitalisation of society and to minimise the risks associated with privacy protection and the protection of children and young people. This includes strengthening the necessary understanding among family members for all aspects of digitalisation, e.g. careful handling of personal data. This places new demands on educational institutions, not only in early childhood education, in everyday school life or in adult education. Family education is also required to address the issue of teaching media skills to parents, as well as grandparents.

The use of digital services shows that parents have a great need for information on questions relating to their particular life situation. This is often associated with a guidance function that enables parents to contact local support services for further advice. The continuous electronic application of state benefits for families is, for example, an important follow-up step that can reduce the burden on families considerably, as it helps to reduce the time burden on them. Considerable travel and waiting times can be saved, especially in a large and sparsely populated state like Brandenburg.

The use of new media can result in greater participation in information and advice offerings. Since these new media are fundamentally open to all, and families can operate them from their own living rooms, access has a lower threshold than going to the authorities or an advice centre. Participation in social life and political participation processes can also be improved by digital forms of participation for families, older people, children and adolescents, as all these groups can better express their interests in this way. Topics range from child and youth media protection, data protection, consumer and health protection, promotion of media education in families, political education for all family members, promotion of tolerance and understanding as well as equality and social participation of women. In this way, too, digitalisation offers enormous potential for improving family life.

Digital technology also offers older people opportunities for leading a self-determined life and taking an active part in society. Age-appropriate educational offerings are needed to make access to new technical opportunities easier for senior citizens and enable them to deal with digital technology safely. The government's policy guidelines for senior citizens already take this challenge into account as an important element of lifelong learning in view of the progressing digitalisation. Questions related to the use and operation of new digital media play a central role here. Many senior citizens use the internet and smartphones to communicate or to get information. As private and public services are increasingly being offered online, older people must be empowered to take advantage of these services. Appropriate education and training can counteract the worry that older people will miss the transition to digitalisation and be excluded from the advantages of new technologies. Senior citizens also require reliable information about the opportunities and risks of using digital technology for more security in their own homes – many of the systems advertised in the media are still in the development stage.

Youth and Sport

Young people are completely comfortable dealing with a wide range of digital media, technologies and tools. They use digital progress for information gathering, entertainment and leisure activities, for improving personal, cultural and professional skills and competences, for networking and communicating with others, but also for expressing their own opinions, for creativity, for realising their own rights and for active citizenship.

At the same time, there is a need for educational offers which help to identify both the possibilities of digital change, such as the appropriation of digital living environments, the retrieval of information, social communication, as well as preparing young people for more dangerous aspects, such as threats to privacy. Young people must be taught that the protection of everybody's rights is a fundamental principle of social coexistence.

The development of digital education in youth work builds on the active engagement of young people and the everyday presence of digital media in their lives, enabling them to make the most of and develop their existing digital skills, while benefiting from the support of their respective groups.

They are supported by the 18 youth information and media centres (YIM) currently operating in the state. The YIMs are evolving into regional competence centres for media education, whose task is to both offer comprehensive media education programmes and implement youth education projects in cooperation with local schools. This will further strengthen the cooperation between schools and youth work in the field of media education.

Digitalisation and sport have become integral parts of our everyday lives. Education in sport and through sport also draws on digital learning, including the acquisition of appropriate skills. However, motoric development cannot be replaced by digital learning.

Digitalisation in sport enables interesting developments in many areas of everyday sporting activities, professional and popular sport. In competitive sports, for example, the digital networking of body and performance data can decide victories. In popular sports, too, digitalisation is advancing with a wide range of offers. In school sports, digitalisation has also become an integral aspect. Motor learning can be combined perfectly with digitalisation in a reflexive mode.

Faster and more comprehensive availability of sports facilities and therefore optimised health care, as well as a management style that promotes health and safety, have become commonplace with the aid of digital media.

More varied spectator sport through new transmission technologies increases the attractiveness of sport in the media. Virtual e-sports, i.e. sports competitions held between people with the help of computer games, will increase significantly. This goes hand in hand with a reorientation of traditional autonomous sports systems; global internet companies will also influence sport.

Heimat and Culture

Among many other things, the attractiveness of a state also depends on whether a person can identify themselves with it. Modern Heimat is characterised not least by a diverse but independent culture. This includes everyday, regional and high culture, which Brandenburg has been exceptionally rich in for centuries.

Digitalisation opens up completely new forms of access to culture and cultural participation. Cultural institutions must successfully participate in the digital structural change. This is the only way to guarantee that they will continue to be visible in the digital world in the future and it is the only way to attract a new, young audience to the state's cultural venues, while at the same time retaining the existing audience.

Digitalisation provides a unique opportunity to make Brandenburg's valuable cultural heritage accessible to a broad public online and to secure our cultural assets for future generations. Many of these treasures are stored in archives, libraries, heritage agencies, memorial sites and museums. They must be digitally developed, secured and made available to a greater degree. Small and large cultural institutions must also be given the chance to develop into modern cultural operations that supplement their previously purely analogue contents and offerings

with digital ones. This form of mediation is an additional instrument for participation in cultural life. It contributes to making cultural venues and places of cultural education digitally visible.

Digital offerings and contents are an opportunity to provide a clear added value compared to analogue mediation – for both visitors and institutions. The cultural landscape in Brandenburg must adapt to the new demands and expectations of increasingly digitalised visitors. The digital transformation process, however, requires that the state's cultural institutions be equipped with the appropriate technical infrastructure, trained specialist staff and sufficient financial capacities.

In summary: the future is made locally. To realise the goal of fair and attractive living spaces, we need stimulating and supportive dialogues, networking and the exchange of experiences with and between cities, districts and municipalities, as well as targeted public relations work and the promotion of selected pilot projects.

Selected Brandenburg Government Measures

- 1) Expanding the online offering “Cost of Living and Mobility Calculator” (Wohn- und Mobilitätskostenrechner – WoMoKo).
- 2) Introduction of electronic tickets as chip cards in the Berlin-Brandenburg public transport system (VBB) for better customer service and resource deployment.
- 3) Increasing the attractiveness of local public transport with wireless internet access (Wi-Fi) in all the trains on the regional rail transport network. Access to digital applications while using transport routes supports commuters and creates the conditions for flexible mobile working models.
- 4) Reducing CO₂ emissions from traffic through better networking of the different ecomobility transport offerings by means of multimodal mobility or by means of data-based and sustainable mobility and traffic management. Setting up a modern bicycle hub for interactive information and constructive solutions for sustainable and digital urban development.
- 5) Setting up a digitalisation flat-rate for hospitals to ensure that challenges, such as protection against cyber attacks and setting up and operating telemedical provision solutions. Also, supporting an agency portal for freelance midwives and freelance healthcare professionals.
- 6) Introducing a digital parental allowance: enable online applications for parents and relieve the parental allowance offices by transferring application data electronically. The aim is a digital, paperless application that makes the application process easier for parents and supports the tasks being performed in specialist administration.
- 7) Further development of the family and child policy programme/government package of measures with the new focal issue “Effects of Digitalisation on Families” (working title).
- 8) Securing and presenting cultural heritage and cultural assets: In a combination of material conservation, digitalisation and digital archiving of cultural heritage, cultural assets are made permanently usable for subsequent generations.
- 9) Securing the film cultural heritage by means of digitalisation, archiving and ensuring public access to film inventories for a broad public and academic use.

e. Modernising Public Administration/Digital Justice

Aims of the Brandenburg Government:

- Setting up a citizen and staff-friendly digital administration in the state and municipalities (in cooperation with the municipalities),
- Introducing a uniform platform for e-record keeping and e-cooperation for more efficient administration,
- Process optimisation in all administrative matters,
- Digitalisation of the legal system,
- By 2022, establishing digital access to all administrative services and introducing a single citizen's account,
- Enshrining Open Data in the geoinformation sector.

The Field of Action:

Digital Administrative Services

In the scope of digitalisation, the government sees great potential for a simplified, more efficient and therefore more citizen and staff-friendly administration. Process optimisation is the basis of all administrative services. The technical networking of data and processes means that many administrative processes from the analogue era are either redundant or in need of review. Faster submission and processing of applications, without annoying interim steps – ideally from home (or work) – make administration more contemporary and attractive to citizens. The next step is government services without applications which aim to recognise the needs and legal entitlements of citizens – e.g. for child benefit – and implement them directly without the need for an application. However, the path to a digitalised administration is a complex process and must be taken with all of the requisite security concerns and respect for employees. The government will also make all administrative services available to the public online by the end of 2022. The new Brandenburg E-Government Act contributes to establishing legal clarity and new organisational structures within the scope of what is legally possible for states. In this context, Brandenburg parliament's resolutions “Open Data for Brandenburg” (DS 6/9857(MD)-B) and “Safeguarding Training Strategy and Standards for the Implementation of the E-Government Act” (DS 6/9899-B) are also taken into account.

The government is focussing on user-friendly applications and will further expand its online offerings. Digital assistance systems are to be introduced quickly so that citizens can complete applications, pay fees, request forms and avail themselves of electronic administration services faster and more securely. In Brandenburg, too, the aim is to store citizens' data, that is required to perform administrative tasks, in one place and in a way that meets the requirements of data protection. Brandenburg's tax administration system, which is already largely digitalised and is a leader in Germany for the use ELSTER electronic tax data transmission software, will continue to work at the peak of technical development in cooperation with other federal states to make tax returns as efficient as possible for citizens and staff. In accordance with the implementation of the Online Access Act (Onlinezugangsgesetz - OZG) the Central IT Service Provider for the State of Brandenburg (ZIT-BB) offers a user account for natural, and possibly also legal, persons. With this user account, previously identified people can securely authenticate themselves to public administration (state and municipalities), taking account of the necessary level of trust. It will be possible to use these user accounts across federal states; the federal government and the states will ensure the necessary interoperability for this.

Administrative Modernisation

It is important to the government to develop comprehensive, uniform processes that, with optimised interfaces, can be connected to other administrative systems. The state's internal administration systems are still in need of improvement in this respect. The recent accession to “Linie6+”, a union of several federal states to address this topic, is a sensible step to bundle development efforts. The state voluntarily provides municipalities, offices and

municipal associations existing and planned basic IT components for shared use, thereby supporting the municipalities' journey into the digital future. Moreover, an IT Council was established by the E-Government Act, in which the municipalities are represented on an equal footing with the state. The aim is to advance the administrative modernisation of the state and municipalities efficiently with consensus.

To make work in the state administration more efficient, employees in Brandenburg's state administration will be provided with a modern platform for electronic record keeping, transaction processing and for new forms of cooperation. The aim is work processes that are free from media disruption and much faster. This platform complements specific specialised procedures and applies subsidiarily if no specific specialised procedures are available for the creation of administrative services or if existing specialised procedures can only work completely without media disruption with electronic file management.

Police

Digitalisation in the police sector is aligned with the national General Specification on the Reorganisation of the Police Information Architecture and the Guidelines for Modern Information Management. On the basis of the "Saarbrücken Agenda" and in the context of the Police 2020 programme, all state police forces and the Federal Criminal Police will harmonise their police information architectures and establish a uniform information infrastructure to enable networked police work in a time of networked crime. In accordance with the legal conditions, every police officer will therefore be able to access the necessary information at all times and everywhere. The continuous harmonisation and simplification of the police information structures and processes is a prerequisite for effective police work and quick adaptability and for a digital networking of the police with their national and international partners, without media disruptions. Providing a uniform combined system with a central police data base will improve the exchange of information. Through the use of modern technology and leaner processes, police officers are freed from routine tasks and can therefore ensure greater security on the ground.

For this reason, the digitalisation approach of the police in some areas deliberately goes beyond the pure IT fields in order to exploit the potential of a holistic development of the police in Brandenburg in an integrative approach. It requires close cooperation, especially between the management, organisation, operational and administrative areas of the Brandenburg police. This is supported by the increased possibilities of information and communication technologies, particularly in the sense of a driver for innovative tools for accomplishing policing tasks, but also for modernising administration and optimising processes.

Open Data

The state of Brandenburg aims to make its government and administrative activities more transparent for the interested public, science, industry and other institutions and to increase the opportunities for participation in planning and decision-making processes. The regular provision of relevant, structured and machine-readable government and administrative data within the context of Open Data plays a central role here.

In anticipation of a state-wide Open Data initiative, there will be an exemplary implementation of Open Data for geoinformation in the surveying administration, since digital provision and availability of the basic geoinformation already exists in portals and databases in this area of administration. The provision and use of digital basic geodata and geospatial data of the State of Brandenburg (Open Data), in particular in the form of web-based geodata services, which is generally free of charge, has a support function for the development of geodata infrastructures for municipalities, the economy and also for citizens. The conclusions and experiences gained here will then be used for the implementation of subject-independent Open Data solutions.

Digital Justice

The justice system is currently, and will in the future, face major challenges in the context of digitalisation, both in jurisdiction and administration. It operates its information technology under its own responsibility to ensure the constitutionally required protection of judicial independence.

By expanding electronic legal communication and introducing the electronic case file, the government wants to speed up communication between courts, public prosecutors, authorities and other parties involved in cases. The planned exchange of structured data, will make it possible to automate work processes, greatly facilitating the availability of court and public prosecution files. Transport distances are avoided, the files are available everywhere at all times.

The implementation of the federal legal requirement to introduce the electronic file to the justice system by 1 January 2026 is an immense task. Accordingly, the projects will be addressed with the highest priority and the necessary resources will be made available.

To be able to do justice to the requirements of a functional justice system on the basis of digital technology, in particular electronic file processing, both a highly reliable, highly efficient and future-proof IT system and an organisation of the IT support that meets the same requirements must be ensured. This will be operated in ZenIT, the justice system's central IT service provider, which was set up for this purpose and is currently being developed further.

The government is pursuing these goals in practical cooperation with the other states. Considerable efforts are being made in the justice system to harmonise specialist procedures that currently vary from state to state, to advance the modernisation process uniformly while saving resources. For example, Brandenburg has joined an administrative agreement, under which a nationwide specialist process for courts and public prosecution is to be developed and maintained (GeFA). The aim is to combat increased development, maintenance and further development expenditure in all federal states, to exploit the cost reduction potential of digitalisation, since development and maintenance costs are only incurred for one procedure and, at the same time, to further improve the quality of cooperation within and with the justice system.

In addition to the digitalisation of public prosecution and court processes, the government aims to implement other measures, such as electronic land registration management. This should greatly improve the usability of the database. A land register database will be introduced and conventional methods modernised. In future, the contents of the land register will be stored as searchable individual items of information, instead of pictures or continuous text, and the logical links between entries will be displayed in an object structure. It will then be possible to

process applications received electronically without having to make extensive entries and to transfer (in some cases automatically) continuation applications to the land register.

The government also wants to continue to make access to applicable law as citizen-friendly as possible. The BRAVORS system is a complete state law database for the state of Brandenburg with all the legal and administrative provisions and additional amendment histories, which benefits all users, both citizens and administration. This will have to be continuously updated and expanded.

Selected Brandenburg Government Measures

- 1) Digitalisation of applications, notifications, requests and correspondence of all types with citizens and industry: Brandenburg will make the digitalisation of local administration an everyday reality for every citizen.
- 2) Monitoring and communication for the implementation of the Online Access Act in the state of Brandenburg; by the end of 2022 up to 600 administrative services will be made available to the public digitally, uncomplicated and securely via a group portal.
- 3) The digitalisation of administrative services in the field of immigration and emigration.
- 4) Introduction of a cross-authority platform for the Brandenburg state administration for electronic files, cross-authority transaction processing and electronic cooperation in administrative files, project and committee files without the need for documents to be dispatched/exchanged.
- 5) Introducing and expanding electronic invoicing (e-Invoice).
- 6) Faster and more efficient processing of tax returns through improved digital tax administration.
- 7) Establishing a dedicated IT infrastructure for the justice system, at the Central IT Service Provider of the Justice System of the State of Brandenburg (ZenIT).
- 8) Comprehensive expansion of electronic legal communication and introduction of the electronic case file.

f. Consumer Protection and Data Security at the Highest Level

Aims of the Brandenburg Government:

For the government, consumer protection, data protection and cyber security are important cross-sectional issues for digitalisation.

- Securing consumer and data protection in the digital world and strengthening consumer empowerment,
- Making it clear that data belongs to the citizens and not to the state or companies,
- Strengthening data and IT security,
- Effectively combating cyber crime.

The Field of Action:

Consumer and Data Protection

For the government, data protection and consumer protection are cornerstones of every digital development. Consumer and data protection are always considered and integrated in processes and plans so that the advantages of digitalisation in Brandenburg can be exploited. This includes data-protection-friendly default settings and regular and long-term software updates for all digital devices and programs, data economy and protection against the unauthorised use and disclosure of data. The state of Brandenburg understands consumer protection as an interdisciplinary task in the digitalisation process.

Whether in the development of new technologies, in support for new business models or in the use of digital devices in medicine and nursing or at home, digitalisation always comes with consumer and data protection challenges. Users leave a trail of data behind them when using the internet or digital devices. Companies collect the data in a targeted fashion, in social networks or when search engines or smart devices are used at home to, for example, post targeted advertising. Citizens often have no idea who has their data and what happens with it. In the digital world they may also encounter dubious business models or buy products and services that do not comply with consumer protection standards or that quickly become obsolete because interfaces are missing or software updates do not have to be provided. Digitalisation is also creating new business models and practices that can create new opportunities for consumers, but which can also change their role in the market and therefore place new demands on them.

In accordance with the “Consumer Policy Strategy”, the government promotes fair and safe products and services, consumer-friendly markets and expert consumers.

Consumer rights must be safeguarded and developed in the digital sector, for example, with respect to the deployment of the algorithms, e.g. on internet platforms. By constantly monitoring the markets, in particular with the involvement of consumer protection organisations, it is possible to determine whether consumer rights need to be adapted or better enforced at an early stage. Strengthening law enforcement to protect consumers, among other things from cyber crime and fraud on the internet, is an important goal for the state. This also applies to consistent data protection.

The government also aims to strengthen digital consumer empowerment and personal responsibility. Through consumer advice, information and education, taking account of the different needs of the various consumer groups, citizens will be put in a position to operate responsibly and competently when making online purchases or using digital services and be able to assess any risks. Consumer advice and information are increasingly being realised with digital instruments.

Data and IT Security

Trust in digital offerings and services is the prerequisite for the positive development of a digital world for tomorrow. Data and IT security therefore have the highest priority at all levels and in every field of application. The government is aware of this and has taken the appropriate measures.

The government will ensure the consistent implementation of data protection and data security regulations in Brandenburg and promote the legal regulations necessary to maintain people's personal rights in all areas of digitalisation. As the competent authority for monitoring compliance with data protection regulations by public and private centres in the state of Brandenburg, particular importance is attached to the Brandenburg State Commissioner for Data Protection and the Right to Inspection of Records.

The acceptance and trust of citizens in new technologies and digital applications are the prerequisite for the success of digitalisation, not just in the fields of health and care, but also in internal security, new means of mobility and the energy sector.

The government is committed to ensuring that data protection and data security are taken into account during the development of products and services, with regard to the General Data Protection Regulation and other regulations, and that awareness of risks and the protection of personal data is raised with companies, authorities and citizens.

The government is aware that questions of data ownership and data trading will be raised again in connection with autonomous driving, commuter Wi-Fi, smart homes, etc. It will advance the assessment of these new issues and examine suitable measures.

Cyber Security

The government will further expand risk and security management for infrastructures so that it is able to counter possible risks, such as cyber attacks that aim to externally manipulate traffic flows or means of transport. The appropriate security management structures in the field of information/cyber security are set up by the Brandenburg Ministry of the Interior, which is responsible for IT and IT security, in close cooperation with the Federal Office for Information Security. This explicitly includes the protection of critical infrastructures.

Selected Measures:

- 1) In the context of the educational landscapes, the government promotes effective consumer education in schools: Carrying out bundled campaigns by the working group on consumer education in schools.
- 2) Model project by the Verbraucherzentrale Brandenburg e.V. for mobile advice in rural areas in the north of Brandenburg "E-Consumer Protection in the Local Advice-Mobile. The Consumer Centre Digimobil".
- 3) Support for an online arbitration centre for low-threshold and individual law enforcement.

g. Strengthening Democracy – Media and Voluntary Work

Aims of the Brandenburg Government:

- Securing quality and diversity in the media of the digital world,
- Strengthening digital journalism,
- Strengthening a diverse and lively civil society in the digital world.

The Field of Action:

Quality and Diversity in the Media

Tweeting presidents, the debate about fake news and virtual local associations give rise to the urgent question: How is digitalisation changing democracy, the formation of opinions and social engagement? How does democracy change if small interest groups are suddenly given a voice in debates, if volunteers no longer only get together in clubs but organise sporadically online?

The government is monitoring socio-political developments in the wake of digitalisation very closely. It wants to take advantage of the major opportunities offered by the modernisation of democratic coexistence in Brandenburg without losing sight of the risks associated with it. Today, citizens can already take part in democratic decision-making processes. In the future, digital participation will become increasingly common. In addition to regular elections, petitions, referenda, participatory budgeting and contact and complaint centres offer the opportunity to get involved and contribute to an overall picture of the public mood.

Reliable information is the basis for every decision in democracy. The government is aware that quality and diversity in the media are extremely important, especially in the digital age. Journalistic media offerings have a high value in society and are an essential prerequisite for a living democracy and social co-existence. For this reason, the freedom and independence of the press and broadcasting is an asset of constitutional importance. The government ensures that this freedom is secured and strengthened, even under the conditions of the digital transformation. It ensures the general legal conditions that make free journalistic work, without hindrance, possible. The goal of media and broadcasting policy is a diverse and high-quality media offering that allows people a high level of participation in society. The media – informative as well as entertainment – reflect values, social discussions and attitudes to life, connectedness and Heimat.

Furthermore, the government is striving for media laws that balances out the economic interests of market participants, guarantees development opportunities for public media and secures the interests and protection of media users. Commercial media offerings largely depend on refinancing from advertising. Digitalisation has exposed the advertising market to major upheaval, which is changing not only the marketing of media content but also the content itself. Ensuring local and regional media diversity in particular, even under these changed market conditions, is a central media policy goal for the government.

Media law is an important framework for the media in digital transformation it cannot, however, replace the development of new offerings and new financing models. Local and regional journalistic media in particular, which play a central role in people's participation in local social life, need answers to the market logic of the digital economy. The great economies of scale on which the business logic of the large digital platform companies is based cannot be achieved in small, local markets. With the amended Berlin-Brandenburg State Treaty on Media, the media agency will be given new instruments for promoting local journalism with the aim of safeguarding diversity and facilitating new forms of local journalism.

Local information for citizens is also at the heart of a smart village project funded by the government. A cooperation agreement concerning a digital pilot project for the rural area was concluded with the town of Bad Belzig. The government is funding the development of a smart village app, which is also to be made available to other municipalities after the pilot phase in Bad Belzig and in cooperation with the association of towns and municipalities.

The smart village project will bring together and test digital applications and services as examples with the aim of developing the opportunities presented by digitalisation in rural areas. The idea is that the use of digital, internet-based applications can solve specific challenges in rural regions and that they generate synergies through bundling. The app as a central collection point for these offerings will support these applications and their acceptance among end users. Specific challenges in rural areas include overcoming distances, the clustering of demand for goods and services, e-government, e-health and ambient assisted living or smart mobility. The procurement and provision of locally relevant information and local journalistic offerings is of central importance. It is assumed that the offer of topical and local information is the central impetus for using the app and has a major influence on the acceptance and usage intensity.

Brandenburg will also be a strong location for media and broadcasting in the future. Even today, Brandenburg offers journalists, creatives, developers, producers and media technology companies an attractive environment, well developed networks and innovative working environments. Local, regional, national and international stakeholders from media genres live, work and produce in Brandenburg.

Voluntary Work and Civil Engagement

In addition to free and independent media, a lively democracy also needs a diverse and strong civil society. The number of people who volunteer is constantly rising. At the same time, the ways in which people organise themselves and what they volunteer for are changing. The numbers of members in traditional large associations are falling and classical forms of organisation must be reconsidered. Instead of volunteering and becoming permanently involved with an association, many people nowadays find lots of spontaneous project-based commitments attractive. Expressing international solidarity, participating in school-based and extracurricular educational institutions or representing the interests of citizens, e.g. in the field of consumer protection, are new fields of action that are gaining in importance.

The aim of the state's engagement policy is to strengthen development towards a diverse and democracy-enhancing civil society. Traditional areas of engagement, such as sport or civil protection and disaster assistance, are strongly embedded in the region and have an important function for the quality of life locally. The government sees and promotes the parallel existence and co-existence of traditional and new objectives and forms of engagement as an expression of a functioning common good. Engagement in all its diversity creates public spirit, enables participation and ensures social cohesion. Sustainable political guidelines and measures will be developed on the basis of scientific studies in the Brandenburg engagement area and a close exchange with civil society.

Changes in the field of engagement are partly due to digital technologies. It makes networking easier, geographic and time agreements are more flexible, organisations can make their concerns more visible, co-determination and participation can be improved. For rural regions in particular, digital facilities present an opportunity to find volunteers and to keep the association alive with a larger sphere of influence. In online volunteering, a digital form of engagement, free websites and other tools are created, advice is offered in tutorials, information is provided in blogs or online surveys and petitions or crowd-sourcing campaigns are organised. This form of engagement offers forms of participation that are independent of location and time, which can, for example, improve the participation of people with disabilities.

Support is needed so that the democracy-enhancing potentials of the digital transformation can be developed. Many civil society stakeholders need help answering the question of how they can make use of digital tools usable, how they can find fellow campaigners for their own concerns, how they can take a stand against digital attacks and hate comments. The government ensures a close exchange and constructive cooperation with civil society in order to jointly meet the challenges and send a clear signal against anti-democratic tendencies. The digital sovereignty and skills of volunteers and staff members must be expanded, digital tools made available,

information on the various ways of participating disseminated, networking promoted, and exemplary digital engagement projects appreciated and made visible. In this connection, the government will examine which instruments can be used to permanently encourage a digital civil society that stands against hate speech and for democratic co-existence.

Selected Brandenburg Government Measures

- 1) Protecting media privilege in data protection: Ensuring the freedom of research and data processing for journalistic purposes.
- 2) Information and further training offerings on digitalisation and volunteering: Offers (conferences, workshops) are developed that support stakeholders in civil society and volunteers in expanding digital sovereignty and skills and being able to make better use of the potentials of digital transformation. The aim is for an exchange with the state network for civil engagement to discuss needs together and to disseminate contents.
- 3) Promoting the Bad Belzig smart village app as a pilot project to provide digital offers specifically in and for rural areas. The app will be the user interface for various digital projects and applications that will be tested in Bad Belzig and made available to citizens. The procurement and provision of locally relevant information and local journalism offerings is of central importance.
- 4) Further developing the state's digital offerings: Starting with the online portal www.ehrenamt-in-brandenburg.de, the online offerings and participation opportunities will be expanded. Funding options for digital projects using lottery funds or an ideas competition will be examined and digitally engaged volunteers will be considered more in existing markup formats.

III. Roadmap to the Digital Future

The active shaping of the digital transformation is a permanent task that extends well beyond the current legislative period. Added to this is the fact that the speed of innovation means that politics and society have to find ever faster responses to new questions. At the same time, links between subject areas are being made that have so far been organised separately in the government. Organisational and communicative precautions will have to be taken to be able to take account of new speeds.

Comprehensive communication is a central element for the digitalisation of the future. It should act as a needs-based design of digitalisation for Brandenburgian needs and also ensure that reservations and concerns can be addressed in time. More than ever, digitalisation presents the opportunity for individuality, participation and transparency.

These opportunities and necessities will be actively addressed. The following organisational and communicative approaches are a collection of ideas that will be developed further. Some ideas have already been implemented, some still require further elaboration.

a. Supervision and Coordination

Digitalisation is an interdisciplinary task for the future for all fields of politics and life. Coordination and networking therefore occupy a central position in the government's work. To do justice to this task we need a staff unit in the State Chancellery, with financial and personnel support, which coordinates the government's digital policy measures and puts them in context. This will ensure that the strategic objectives of the ministries are harmonised and effectively linked to other programmes of the state of Brandenburg.

The government's digital policy mandate will primarily entail implementing the digital strategy and advancing and supporting its continuous further development. New subjects will be added. Among other things, it will be about creating incentives and framework conditions to create the maximum possible space for ideas and innovations. This includes the extension of the legal scope and the introduction of experimentation clauses. Other examples include coordination and advice measures that can be strengthened, with a view to the needs of the municipalities.

An interministerial DigitalAgentur Brandenburg will be established to connect the diverse digitalisation activities and projects at a state and regional level to each other and to support them operatively. This provides an adequate project-related and service-oriented support and implementation structure for the complex cross-sectional task of digitalisation, as well as the corresponding competencies and information. The DigitalAgentur will install regionally balanced support offers thereby facilitating fast and efficient accessibility for the regional and local partners in the state of Brandenburg.

The government will examine whether an improved coordination of different developers (telecommunications, waste water, energy) can be implemented.

In view of the sometimes considerable co-financing costs for subsidies from the EU and the federal government, Brandenburg still needs a strong digital voice in both Berlin and Brussels in order to manage the burdens on the state budget with a sense of proportion.

This work requires a continuous exchange between the ministries at all levels.

In this light, the following control elements must be continued:

- the digital cabinet should continue to meet twice a year. Politically relevant digital policy models should be discussed as bundles.
- The meeting of all government state secretaries (heads of office meeting) should regularly deal with current digitalisation issues, ideally on a monthly basis.
- Digital policy coordinators in the ministries should continue with their work and regularly discuss their work in an interministerial working group in the future.
- The Digital Advisory Board will continue its work and advise the Minister-President on digital policy matters.

Moreover, a structured exchange process on the digital interrelationship with the neighbouring state of Berlin should be pursued. Close cooperation is essential in view of the overlap in almost every area of policy.

b. Communication and Dialogue

What the digital future will look like exactly is uncertain: Ongoing technological and social developments are constantly changing and expanding the demands made of digital policy. This is why it is important to address new trends in regular specialist dialogues between the government and experts from industry and science and to realign existing objectives.

An important task for the entire government is to involve all stakeholders – from politics, industry and science, associations, clubs, organisations and citizens – in digital policy developments. Digitalisation can only be advanced together and in dialogue. Sector discussions with representatives from all sectors of industry and stakeholders from society can form platforms for the exchange of information, expectations and experience with respect to digitalisation. In this way, we not only want to pass on valuable knowledge, but to initiate joint projects and cooperation.

In 2019, the government will present the further digitalisation process transparently thereby achieving a high level of visibility and awareness. This will be achieved, for example, using the government digital policy website (www.digitalesbb.de) and social media (including #digitalesbb) and, naturally, also using the classic communications instruments, such as a newsletter and other publications.

Digitalisation is most tangible when it happens locally. Events hosted in the state can provide information about the digitalisation strategy and make digitalisation tangible.

The government is examining the following instruments for this.

- Subject-specific regional conferences that bring together people with various backgrounds and help to shape the digital transformation directly on the basis of local circumstances and needs,
- Intensified civil participation, for example, in the form of open innovation forms and invitations to tender,
- Exchange between digital policy stakeholders in more open network formats under the leadership of subject-specific government digital ambassadors,
- Exchange with digital policy stakeholders in other federal states and/or with European digital pioneers,
- Internet platforms and think tank events about cooperation between established companies and newly founded start-ups,
- Continuing and expanding successful support for the start-up scene by the government and universities,
- Equipping flagship projects with a strong communicative component so that good ideas are not “just” developed, but are also actually applied,

- Digital shop windows and practical laboratories should be increasingly used so that new developments are “tangible” and transferable (e.g. digital future municipalities or smart villages or thinking factories),
- An annual high-level digital conference.

The aim is an interactive map on the government digital policy website (www.digitalesbb.de), where digital pioneers present digital innovations and progress in the form of a participation portal.

To advance the innovative spirit in Brandenburg, the government intends to award prizes to, publicly reward and support particularly outstanding, exciting and innovative projects.

c. What Happens Next

Publication of the Strategy does not signal the end of the digitalisation process but represents another interim step. The Strategy is a timetable that has to be implemented and continuously developed in line with the changing digitalisation challenges beyond the current legislative period. The Digitalisation Strategy will be evaluated every two years.

To achieve the digital policy objectives in the relevant fields of action it is necessary to regularly question the starting situation and to examine the measures chosen with respect to their effectiveness. The catalogue of measures should be continuously adapted with regard to existing needs and developments. The Digital Advisory Board will advise the government on which measures above and beyond the Strategy should be introduced.

Measures for the road to the digital future are at various stages of progress and planning. It was important for the government not only to outline financially secured measures, but also to document the as yet unfunded approaches and concepts of the ministries as to how a positive digital future can be achieved in Brandenburg. Some of the measures still need budgetary approval. In this respect, the Digitalisation Strategy is also a basis for what the new government should do next when shaping the digital policy of the future.

The original German version of this Strategy Paper includes a catalogue of the 202 concrete measures, including their aims, a short description, the responsible ministry and an indication of whether the measure is short, medium or long term.