EUROPEAN UNION

European Regional Development Fund

Senate Department for Economics, Energy and Public Enterprises

Berlin

THE NETWORK OF TOMORROW

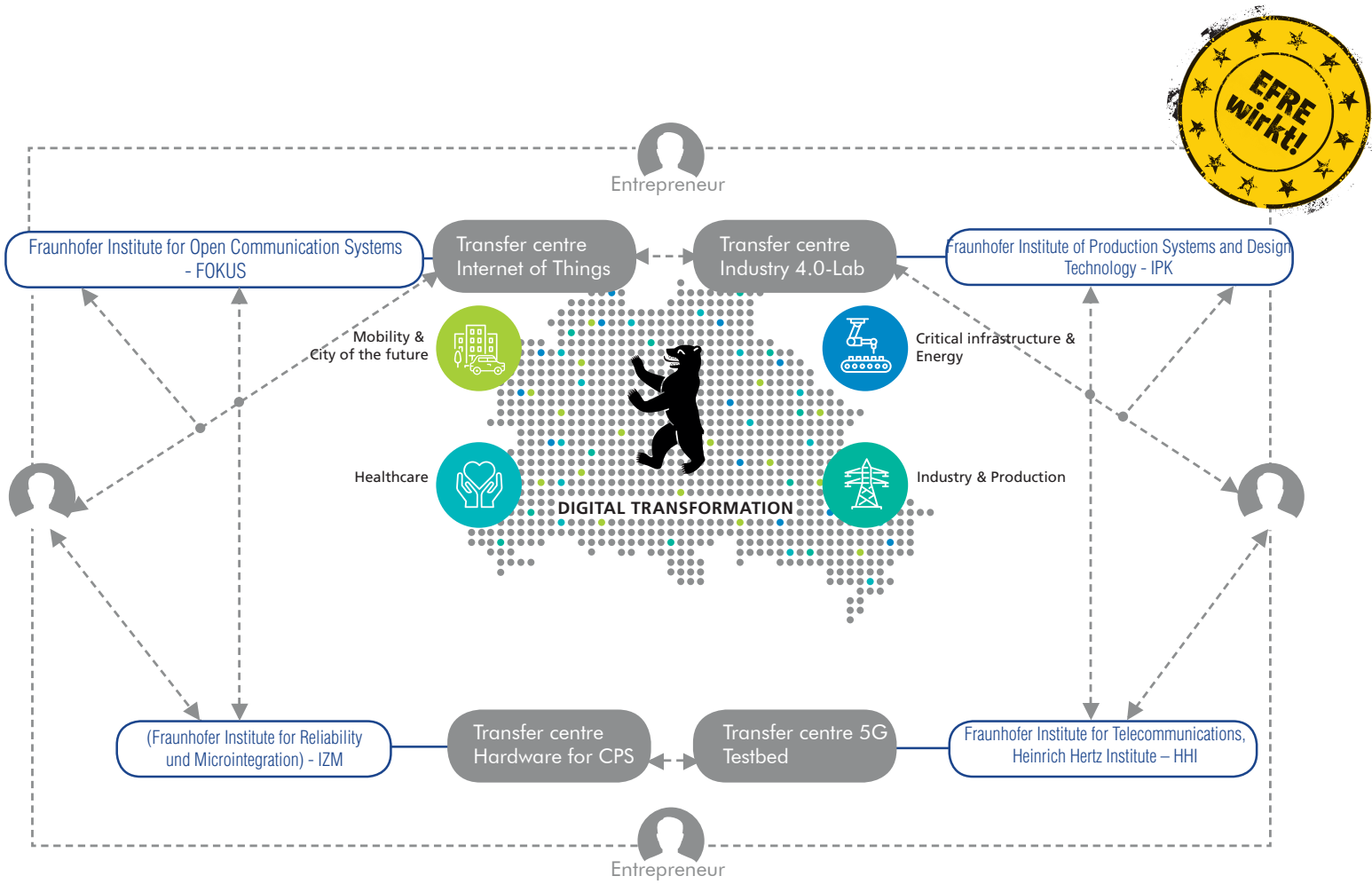
DIGITAL CHANGE is in full swing. As digitalisation progresses, devices become increasingly interconnected, opening up unforseen possibilities: From autonomous vehicles to telemedicine to sensor-monitored waste containers. Almost all areas of life are influenced by digitisation. The domains of medicine and health, industrial production and energy in particular benefit from technological innovations and a strong network between industry and science. Internet of Things, Industry 4.0, cyber-physical systems, 5G mobile communications - these are the central keywords that will shape the future of these areas as well as change our economy and society.

"OUR GOAL IS TO POSITION BERLIN AS A BEACON FOR THE NEXT WAVE OF DIGITISATION."

Prof. Dr. Manfred Hauswirth,
Speaker of the Berlin Center for Digital Transformation

MANY COMPANIES NEED COMPETENT SUPPORT, ADVICE AND INFORMATION on the use of digital technologies and innovations. Because to be prepared for the digital future, a lot of time and money must be invested. Many small and medium-sized enterprises can hardly achieve this without external support. The *Berlin Center for Digital Transformation*, an association of four Fraunhofer Institutes in Berlin, helps Berlin SMEs to leap into the digital future.

THE EUROPEAN REGIONAL DEVELOPMENT FUND SUPPORTS THE BERLIN CENTER FOR DIGITAL TRANSFORMATION through the support programme *platforms, laboratories, centres - non-university research institutions (PLATZ)*. The aim of the funding is to make better use of the opportunities offered by technology transfer and increased cooperation between companies, universities and research institutions. *PLATZ* helps research organisations to closely cooperate with companies.



Berlin Center for Digital Transformation

Fraunhofer

COMBINED EXPERTISE FOR A SUCCESSFUL SOLUTION

In order to make optimum use of the opportunities of digitisation, however, the systems of the most diverse technical domains from software and hardware to radio and networking technology must be combined as **integrated solutions**. And that is exactly what the *Berlin Center for Digital Transformation* offers with the combined competence of all four Fraunhofer Institutes in Berlin: the Fraunhofer Institute for Open Communication Systems (FOKUS), the Fraunhofer Institute for Telecommunications, Heinrich Hertz Institute (HHI), the Fraunhofer Institute for Production Systems and Design Technology (IPK), and the Fraunhofer Institute for Reliability and Microintegration (IZM).

THE AREAS OF APPLICATION FOR DIGITAL NETWORKING

The research focuses of the four participating Fraunhofer Institutes of the *Berlin Center for Digital Transformation* and their transfer centres are:

- **Internet of Things (IoT):** the digital networking of physical and virtual objects
- **Hardware for Cyber Physical Systems:** the development of microcomputers
- **Industry 4.0:** the digital optimisation of industrial processes

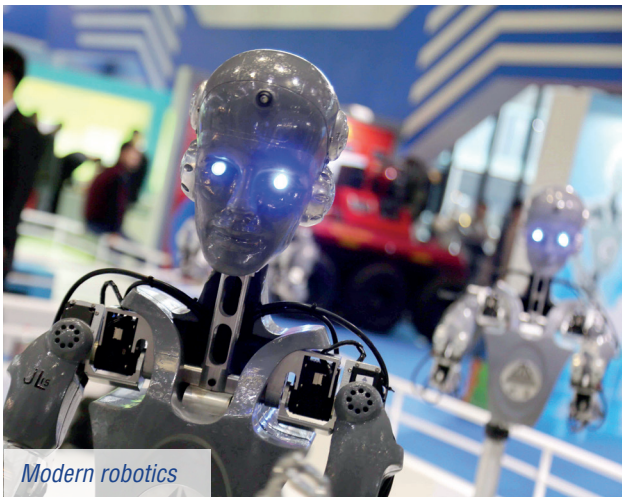
and

- **5G Testbed:** the fifth generation of mobile communications.

The *Berlin Center for Digital Transformation* operates in four areas of application:

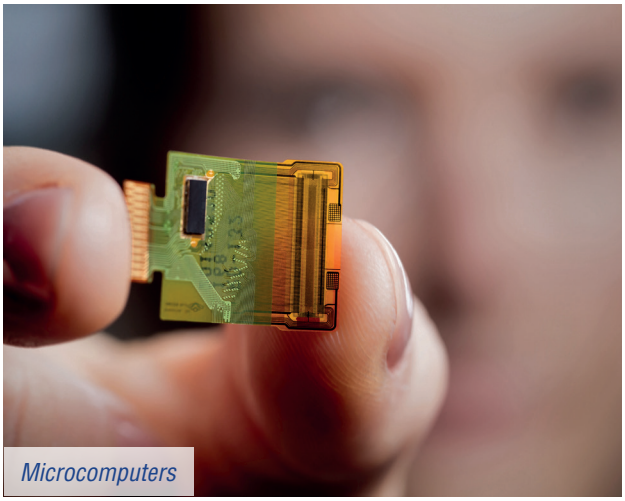
- **Mobility and City of the future:** The project *Smart Streets* is concerned with the realisation of intelligent and networked streets, for example in the form of sensor-controlled street lamps.
- **Industry and Production:** The project *Smart Service Customisation* provides companies with a construction kit, with which information from production, utilisation and maintenance can be systematically recorded and applied. This is a challenge for many companies due to the variety of data that can alter from process to process.
- **Healthcare:** For example, the project *SmartRehab* is further developing data collection in rehabilitation in order to offer personalised and thus more effective rehab programmes at home.
- **Critical infrastructure and Energy:** Among other things, complex sensors are being developed for this area of application, which, for example, can adapt to environmental conditions and geometric shapes. The further development of fifth-generation (5G) mobile communications is also an important part of this area of application.

The transitions between these areas of application are sometimes fluid. With the help of the transfer centres, the *Berlin Center for Digital Transformation* also enables companies and scientists to initiate research projects **without gaps** within these intersections.

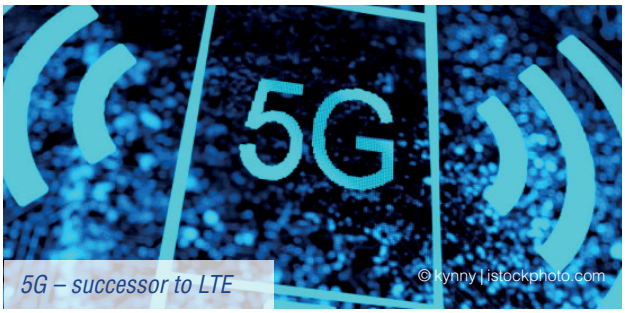


Modern robotics

Automated production



Microcomputers



5G – successor to LTE

Industrial partners as well as public institutions can cooperate with the Fraunhofer Institutes within the scope of these research projects and thus benefit from the know-how and equipment of the *Berlin Center for Digital Transformation*. In the transfer centres established by the *Berlin Center for Digital Transformation*, companies and institutions can develop and test their **digitisation concepts**. The results of the cooperation increase the **competitiveness** of the German industry and **innovative power** of Berlin as a business and research location: This is a priority for the ERDF. The *Berlin Center for Digital Transformation* cooperates closely with the T*echnische Universität Berlin*, especially with the faculties: Mathematics and Natural Sciences, Electrical Engineering and Computer Science as well as the faculty of Mechanical Engineering and Transport Systems

THIS IS HOW BERLIN BENEFITS FROM THE *BERLIN CENTER OF DIGITAL TRANSFORMATION*

The *Berlin Center for Digital Transformation* provides **combined research and execution skills** to Berlin's national and international companies - from start-ups and small and medium-sized enterprises to big companies.

As a centre of excellence, it helps companies benefit from the latest **basic and cross-sectional technologies** and instantly applies them to business practice.

In concrete terms, companies and other co-operation partners benefit from:

- **knowledge transfer and training** so that the possibilites of digital applications are recognised and understood.
- a joint **development** of practical **concepts**, so that partners can advance further into the digital future.
- a joint implementation of integrated **system solutions** so that partners receive suitable answers to specific challenges.
- **support** for the integration of technologies, so that partners can test and implement innovative ideas.

ERDF HAS AN IMPACT ON BERLIN

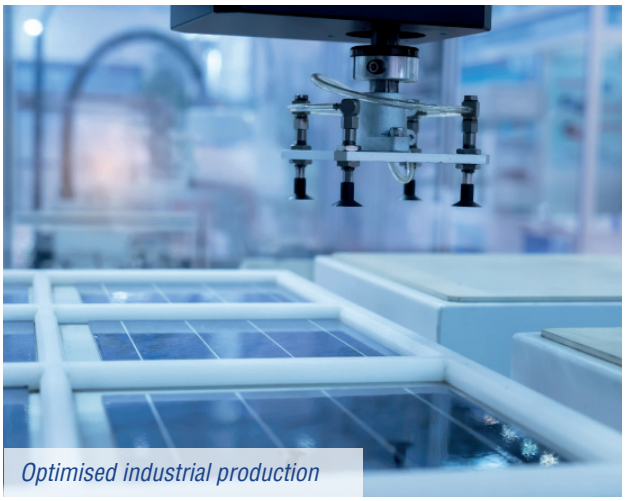
The *Berlin Center for Digital Transformation* is part of Berlin's digitisation strategy. With ERDF funding, the **exchange between research and economy** is enormously strengthened and driven forward. The ERDF therefore increases the **innovative ability** and thus the **competitiveness** of the region. The *Berlin Center for Digital Transformation* secures an **interrelation** between (non-)university research and the industry. This is a way to prioritise scientific achievements with social benefits within Germany, so that the state of Berlin can strengthen its leading role as **beacon for digital networking**.

In concrete terms, the ERDF is ensuring that

- companies and research institutions are given the opportunity to develop innovative solutions for the challenges of the future together.
- the results of this cooperation increase the competitiveness of the German industry and innovative power of Berlin as a business and research location:
- companies, start-ups, universities and research institutions work closely together, both regionally and internationally.

Prof. Dr. Manfred Hauswirth, Björn Böhning (Head of the Senate Chancellery and State Secretary for Media), Prof. Dr. Reimund Neugebauer (President of Fraunhofer)

Regional and international networking



Optimised industrial production

FUNDING:

FUNDING PRIORITY 1

Innovation, Action 1.8: PLATZ - Plattformen, Labore, Zentren [Platforms, laboratories, centres - non-university research institutions]

TOTAL ELIGIBLE COSTS

€ 6,400,620; 50% from ERDF

PROJECT TERM

01/07/2016– 30/06/2018

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