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BONN: REINVENTING PARTNERSHIPS IN THE CITY OF BEETHOVEN

Goodarz Mahbobi is Chairman of the Advisory & Innovation Board, Digital Bonn and CEO, Axxessio. From Beethoven to smart lighting, he describes how this city's digitalization plan rewrote the rules for public-private partnerships. Perhaps the single biggest lesson so far is if you want help, just ask.

Manufacturing is the backbone of the German economy and over 90 percent of jobs in Germany are in small and medium-sized businesses. So it is important for Germany to save these jobs, now and in the future. The government assembled an expert team to help it address these issues and they put their ideas in a paper that is very famous now, Industrie 4.0 strategy – see panel on next page.

The paper included smart cities, which will be enabled by the same technologies, because we need to need to find a better way of life for citizens. Since October 2014, Industrie 4.0 has been a prominent part of the German-Chinese Innovation Partnership, of which smart cities are an important part.

Transforming Bonn

Germany's capital city of Bonn recognized an acute need for action regarding digital transformation so that it could address both the challenges and chances arising from it.

The challenges are:

- The increasing digitalization of business processes, information and communication as society progresses.
- The digital transformation will cause profound structural changes in the economy, cities and society in the next few years.
- Studies forecast, for example, a fundamental change in today's work environment with, on the one hand, job losses and on the other many new opportunities for business activities.

The chances are:

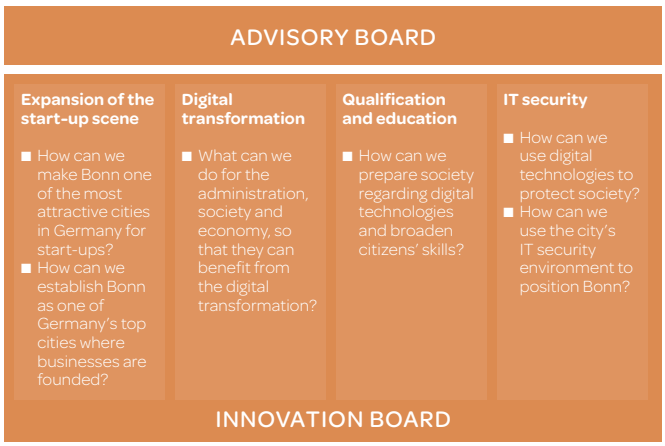
- The city cannot avoid digital transformation, rather it must position itself now to maintain and expand its position within the European Union.
- Bonn can make use of available skill sets by bringing all the key players in the region to the table.

To this end, the Mayor of Bonn started the initiative Digitales Bonn at the end of 2015, with the IT and management consultancy Axxessio, the Economic Development Board of Bonn and the Chamber of Commerce for Bonn and Rhein-Sieg.

Next an Advisory Board was set up in March, which includes the chairmen of Deutsche Telekom and Deutsche Postbank, academics, local businesses and the Mayor. The Innovation Board followed in April, made up of about 50 experts in the regional economy, politics and science. Participants of the boards agreed that,

"Bonn will put the opportunities of the digital transformation for the economy, administration, politics, education and civic participation into practice."

FIGURE 2: THE FOUR THEMATIC WORKING GROUPS



Taking action to achieve goals

To achieve this, the Innovation Board was divided into four thematic groups (see Figure 2) with an initial schedule to develop projects running until the end of October, when they will be handed over to the Chief Digital Officer for the city.

The idea is to create lots of ideas and bring them together, put milestones in place, then hand them over to Bonn's Chief Digital Officer. We agreed each project must focus on the objectives of the overall plan and needed to look at who would run the projects, who would benefit from them and who would pay for them? The government cannot pay for everything, so sponsors would have to contribute too.

In this, Bonn reinvented the idea of the public–private partnership, which is a government service or private business venture that is funded and operated through a partnership of government and one or more private sector companies. It included small and medium-sized businesses, academics, not-for-profit organizations and individual citizens – not just large corporations, which is more typical – and it did not only ask for funding, but for expertise. The Beethoven app is a good example of how this works.

Progressing the city of Beethoven

Bonn is the city where Beethoven was born and many tourists come to the city because of this, but the board realized the city was not using new technology to help them. The first sponsor was Bonn University, which said it would develop a Beethoven app for free and the Japanese Embassy offered to translate it into Japanese. The app gives tourists a virtual tour of the city with information about the life and work of the great composer.

Another project on a different scale is setting up a data hub in Bonn. Already some 20 private enterprises, the University of Bonn, the University of Bonn and Rhein-Sieg, the local Chamber of Industry and Commerce, as well as other foundations and organizations, have joined forces to support the idea. The kick off meeting took place in September. The intention is to encourage startups in the city through making data about the city available to them.

Smart lighting is yet another project. Here ZTE is providing streetlight hardware, which is being tested under laboratory and real-life conditions by members of the Digital Transformation working group. Other partners are developing new business models for a comprehensive use of intelligent street lighting. All of the people working in this project are working for nothing, bringing their experience, expertise and resources.

This project has brought a lot to Bonn's thinking about new technologies. The first 20 lamps will be installed in the first two months of next year. The city has explored use cases to find out which ones are suitable and where the starting point is for Bonn. There are two different views about that – concerning the usage and the investment.

There is also an app for the people living in Bonn, if they just want to find a restaurant, say. This will be handed to the government after we've finished.

Perhaps the single biggest lesson from the City of Bonn, was that if you want help, you need to ask for it and you will be surprised by what is offered.

Industrie 4.0 – made in Germany

Among experts in Germany, the term Industrie 4.0 has become synonymous with the industry of the future. Since the first industrial revolution driven by steam power (Industrie 1.0), manufacturing has undergone continuous development.

The beginning of the twentieth century saw the introduction of the assembly line (Industrie 2.0).

Industrie 3.0 began in the 1970s with the advent of robots and programmable logic controllers, and still defines manufacturing today.

The next phase, Industrie 4.0, will be characterized by intelligent, connected machines and workpieces, augmented reality, cloud computing and big data (informatization). Machines will work, make decisions and optimize largely autonomously, but in collaboration with humans. Production processes will become more flexible, transparent and efficient. We will see the mass production of personalized products to individuals' specifications through mass customization.