
CONFERENCE REPORT “DIGITAL GROWTH IN THE
BAL TIC SEA REGION: EXPLORING THE POTENTIAL OF
TESTBEDS FOR DIGITAL PRODUCTS AND SERVICES”,
COPENHAGEN, 9TH DECEMBER 2014

Introduction

The conference “Digital growth in the Baltic Sea region – exploring the potential of testbeds for digital services”, held in Copenhagen on the 9th December 2014, gathered around 60 representatives from business, government authorities, academia, experts and other stakeholders for a one-day seminar in order to explore the concept of testbeds as a potential tool for digital growth in the Baltic Sea Region.

Access to testbeds where companies can systematically test new and innovative digital products and services with relevant user groups can drive innovation and growth in the digital economy. The purpose of the seminar was to explore the importance of access to testbeds and discuss approaches towards establishing the Baltic Sea Region as a global hub for testing innovative digital solutions.

The conference was organized by the Baltic Development Forum and the Danish Business Authority. It presented participants with an overview of current trends in digital testing, brought forward the views of industry, entrepreneurs and public authorities, and finished off with discussions on some of the key questions: what are the challenges for testbeds; is there a role for the public sector; and is there a need for cross-border collaboration?

The conference provided important insight into the topic and indicated the key issues to be addressed in the follow-up process. The key findings and observations from the seminar will provide inputs to the forthcoming project “Innovative Nordic digital solutions” under the Nordic Co-operation Programme for Innovation and Business Policy 2014-2017.

Key Findings and observations

- *The current high growth in testing of digital products and services is expected to continue*

Companies’ expenses for testing have been increasing significantly. This development is expected to continue and to be driven mainly by new development initiatives and innovative solutions. In particular, testing for non-functional requirements such as security, performance and user experience is growing in importance.

- *Outsourcing of testing to other companies and countries is increasing*

The growing expertise and cloud-based solutions feed into an increasing automation of testing processes that is making it easier for companies to meet their operational challenges.

There is a growing trend towards outsourcing testing operations to other companies. However, the need to keep the testers close-by makes outsourcing to distant locations

a less appealing option. Keeping testing operations nearby, well as co-management over testing becomes more important as it provides agility, improves time-to-market testing and eliminates knowledge bottlenecks.

- *lack of testing skills and knowledge*

Lack of educational focus on testbeds is already resulting in a knowledge gap, with companies having problems recruiting ICT practitioners with sufficient knowledge about testing. This problem is expected to become even more prominent in the future.

- *testbeds are not just for testing ...and not just for digital products and services*

The different models of testbeds operating in the region indicate that testbeds are not just testing facilities. They function as *ecosystems* connecting the private sector, public authorities and academia, creating a synergy for open/collaborative innovation and co-creation processes. Testbeds are a place to test, a place to access users, and an innovative environment.

A broad spectrum of testbeds is available depending on their purpose. They vary from virtual platforms to full-scale landscapes like cities, and facilitate testing opportunities far beyond single digital products, e.g. smart grids and platforms.

- *testbeds provide clear benefits for companies*

Testbeds are able to roll out innovation throughout the value chain by bringing research from lab to the market and help realizing results. Through the participation of different actors, specialized networking platforms can be created, serving as knowledge pools. They can also provide easy access to users, which ensures better dialogue, faster response time, and can help improve public relations through open information.

Testbeds do not only provide companies with the opportunity to test their products and services in real-life settings in a controlled environment, but can also help secure financing via project funding.

- *challenges faced by SMEs are similar to those of bigger companies*

In the development of new digital products and services small and medium sized companies seems to face the same problems as bigger companies e.g.:

- Broad spectrum of user groups (vs. more targeted niches) and fragmented platforms - making testing a complex and expensive endeavor.
- High user expectations on quality and “seamless” user experiences, coupled with
- Difficulty in testing in “real life” contexts
- Quick development loops

However, time and financial constraints make it harder for SMEs to attain testing internally. *“They need data, access to users, quick response/ development processes and facilitation”*. Improved access to testbeds can help SMEs reduce costs by enabling outsourcing of these activities as well as providing access to resources. With the necessary facilitation, SMEs can perform in a more agile and flexible way as they do not suffer from the bureaucratic burden sometimes carried by big corporations.

➤ *lack of a clear testbed definition*

There is a lack of a clear definition of testbeds, and a need for better awareness about “*what is out there*”, in particular for non-digital companies. The role of testbeds currently lacks attention, as the main focus still surrounding the ICT sector is infrastructure and security. In general, testing is implied to take place within the value chain, without being specified further.

➤ *public sector can play a role as facilitator*

The private sector is better at providing innovative solutions and most agree that privately owned testbeds should be encouraged, but access to data and testing output should remain open to ensure information flow.

The public sector has, however, a role to play in providing better framework conditions that may help companies to commercialize and bring the results from testbeds to the market faster. The public sector could provide *information* about – and the need for – testbeds, promote the culture of testing, provide information about existing testbeds and services offered, and facilitate the information flow between testbeds on national and regional levels. The public sector could *invest* in test environments when cost and risk sharing is of high importance, especially for large-scale projects. Also, the public sector could provide *access* to live environments (cities, health care facilities) as test platforms as well as focus on knowledge base creation of existing testbeds. In addition, the public sector could provide *financial support* to secure access to testing in particular for SMEs. Finally, the public sector could establish criterial demands in support of innovation.

By providing funding opportunities, e.g. vouchers for test services, and thereby helping SMEs to gain fair access to testbeds, the public sector would be able to set high standards for innovation and knowledge sharing as part of funding agreements. This would result in “access to failure” for small companies, making it possible to test continuously as well as promoting higher R&D investments in private companies.

➤ *cross-border collaboration could help the development of testbeds in the Baltic Sea Region*

Cross-border cooperation could be beneficial for digital growth in the region and increase the attractiveness of the region as such. Transnational cooperation could strengthen the public sector efforts to improve the conditions for testbeds in the region.

Access to end-users and to multiple testing environments unspecific fields could be improved. Likewise, the development, testing and implementation of transnational digital services could be further facilitated. Access to knowledge and skills in other countries could also be enhanced.

More regional collaboration is desirable, but a lack of knowledge across borders makes it difficult. A common network platform uniting testbeds around the Baltic Sea Region could be useful.

The conference served as input for further considerations and that the various observations and statements made at the conference do not bind the Danish Business Authority. Further consideration is necessary before any concrete action will be taken.