

## **DISCUSSION PAPER**

# **Digital Test and Demonstration Infrastructures**

**- policy considerations based on findings from mapping**

The report “*Digital Test and Demonstration Infrastructures - an opportunity for Smart Specialisation in the Baltic Sea Region*” provides an overview of a number of digital test- and demonstration infrastructures / testbeds available to SMEs in digital economy in the Baltic Sea Region.

The report was prepared to provide a basis for dialogue among policy makers, leaders of testbeds and SMEs (as the users) on testbed policy approaches, and opportunities for cooperation between digital testbeds in the region. This dialogue will be commenced in connection to the presentation of the mapping at a macro-regional workshop in Tampere on 6 April 2017.

To spur the dialogue this *Discussion Paper* presents below a number of policy considerations that are derived from the findings of the mapping report:

The mapping demonstrates that there are quite many – and a growing number of – test, demonstration and verification infrastructures that SMEs can benefit from when attempting to commercialise new digital products, services or processes.

Knowing that:

- there is strong evidence for the correlation between the competitiveness of technology-based SMEs and their access to test and demonstration infrastructures;
- that countries in the Baltic Sea Region have complementary areas of digital testbed excellence – with e.g. Denmark having strongholds related to the energy sector; Norway similarly but related to the maritime sector; and Sweden and Finland having particular testbed excellence in communication sector; and
- that Lithuania, Latvia and Estonia are striving to further sophisticate their digital test, demonstration and verification infrastructures;

gives rise to a number of opportunities for transnational cooperation in this area:

#### **Policy observations and recommendations:**

- Firstly, in line with the 2016 State of Digital Europe report it is proposed that regions and cities in the Baltic Sea Region make further efforts to jointly develop (smart city) digital testbeds to fertilize the emergence of new business opportunities for digital SMEs – and that the public partners pursue such effort in close partnership with companies and research institutions. *Smart* regions and cities are places where digital solutions are employed to benefit productive and sustainable use of community assets such as transportation systems, hospitals, power plants, water supply, waste management and other community services. The report “*Digital Test and Demonstration Infrastructures – an opportunity for Smart Specialisation in the Baltic Sea Region*” demonstrates that cities and regions already provide testbed platforms for such *smart* innovation around the Baltic Sea Region. However: **Could cities and regions benefit from connecting, much more than is the case today, their smart city testbeds?** We can observe that several regions today make overlapping efforts to

champion similar digital economy smart solutions at the same time. Combining efforts could provide new opportunities, e.g. for larger scale testing (a critical component for innovation in the digital economy). Combining efforts could potentially also encourage regions to “zoom in” on specific digital economy areas where they hold particular excellence vis-à-vis other regions. **Could the BSR together become a world class hub for innovation and business development in smart digital solutions for transportation systems, hospitals, power plants, water supply, waste management and more?** – and with that achieve that the Baltic Sea Region advance its position as “The Top of Digital Europe”.

- Secondly, cities, regions and countries play – through public procurement – an important role for the development of digital solutions in areas such as e-government, transportation, health, utilities, waste management and more. **Would cities, regions and countries in the Baltic Sea Region benefit from cooperation on Digital Public Procurement?** The public sector is the largest consumer of digital solutions in the Baltic Sea Region. It would seem that there would be benefits from cooperation around modalities and good practices for effectively utilizing public procurement to advance experimentation and adaptation of digital solutions in society.
- **Is being small sometimes being beautiful?** The 2016 State of the Digital Region Report documented that smaller cities and regions in the Baltic Sea Region can benefit from their smaller size. It is for example much easier to conduct controlled experiments in a city like Tallinn or Malmö than in London. Bornholm Bright Green Test Island has also proven this by conducting digital simulation of energy systems in a small (isolated) context – but with implications/solutions that span much further than to the island of Bornholm. **Could the Baltic Sea Region do more to take advantage of its opportunities to do full-scale societal experiments in small scale, and thus at relatively lower costs?**
- Thirdly, designing policies and undertaking digital economy experiments is by far an exact science. Because of the complexity of developing and continuously keep up to date testbed infrastructures and technology services **is there opportunity for sharing experiences on the approaches for successfully delivering digital testbed infrastructures and services to SMEs?** Maybe in particular such knowledge sharing could potentially benefit Estonia, Latvia and Lithuania, who’s test, demonstration and verification infrastructures in the digital economy is current less advanced as in the other parts of the Baltic Sea Region investigated. A first effort of such knowledge-building cooperation could be to improve the snapshot provided by the mapping “Digital Test and Demonstration Infrastructures - an opportunity for Smart Specialisation in the Baltic Sea Region”. A more complete inventory, detailing also the particularities and complementarities in digital testbed excellence around the Baltic Sea Region – including also in Germany and Poland – would be accommodating for learning purposes and also for seeking further synergies in efforts across the macro-region.
- Fourthly, the report “Digital Test and Demonstration Infrastructures - an opportunity for Smart Specialisation in the Baltic Sea Region” demonstrates that while test, demonstration and verification infrastructures in principle are available for both domestic and foreign SMEs alike, in reality “most SMEs shop for digital technology services at home”. With test services

– like with any other services – it does not always make sense to buy everything at home. **How does one encourage SMEs to commission test and technology services in neighbouring countries with particular excellence in their digital business and innovation area?** Doing more to open up and share digital testbed platforms – thereby encouraging SMEs from one country to benefit from testbed infrastructures in another country – seems to hold a large potential for innovation in SMEs and further smart specialisation in the digital economy in the Baltic Sea Region. Also, such efforts would benefit the general internationalisation of SMEs – another common key barrier to growth in SMEs.