Sharing Test and Demonstration Infrastructures in the BSR

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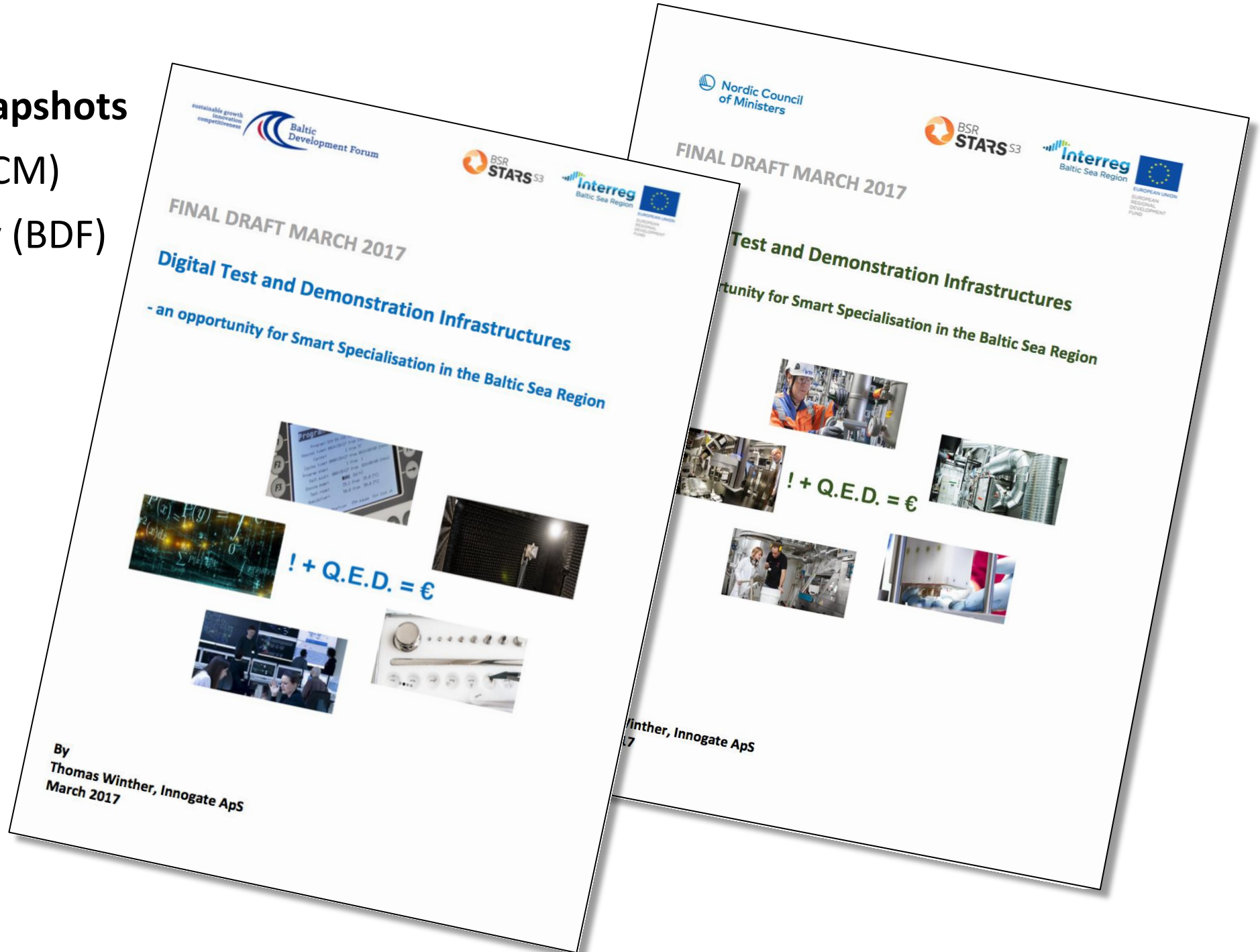
Two mappings/snapshots

- Bioeconomy (NCM)
- Digital economy (BDF)



The context

- EU project **BSR STARS S3** on innovation and smart specialization in bio-, circular- and digital economy the Baltic Sea Region. Target group: 3Helix.
  - With partners from Tampere area, Region Greater Copenhagen, Region Skåne, Region Sør-Trøndlag, Lithuania, Swedish Agency for Economic and Regional Growth, the Nordic Council of Ministers and Baltic Development Forum.

- For the **Nordic Council of Ministers** adding to cooperation activities on bioeconomy in the Artic, Nordic and Baltic Sea Region – including EUSBSR Policy Area Bioeconomy.

- For the **Baltic Development Forum** adding to cooperation activities on the Think Tank initiative “Top of Digital Europe”.

The extend of the mapping

- National test and demonstration infrastructures, mostly.
- Does not include most non-commercial labs at universities and R&D test pilots.
- Does not include for-profit private entities offering test/analytics services.

Available infrastructures – bioeconomy

Denmark

- **GTS Advanced Technology Group** (7 RTOs).
  - Bioneer (biotechnology with health and pharma bias).
  - DHI (water use in aquaculture, agriculture and industry, water management and safety).
  - DTI (food & feed, packaging, materials, chemical… – "Biomass-Technology-Products").
    - Force Technology (bioenergy and manufacturing of food, chemicals, materials).

Norway

- **The Research Council of Norway** (48 RTOs)
  - NorBioLab and Fiber and Research Institute (biofuel and energy, but more and more in food, feed & materials).
  - Nofima (fisheries, aquaculture and food).
- **SINTEF** (bioenergy, eco-materials, biotech/life science).
- **SIVA** (incubation and test arenas).

Available infrastructures – bioeconomy

Finland

- **VTT Technical Research Center of Finland** (network of many VTT centers/RTOs).
  - VTT Expert Services (broad set of services for testing, demonstration, certification and approval).
  - VTT Bioruukki (biorefining pilot plant – bioenergy, biochemical, biomass and recycling).
  - Tampere University of applied Science (labs for paper&packaging and chemistry&environment).
  - Other university infrastructures (Aalto Bioeconomy, SIB Labs Eastern Finland, Smart Chemistry Park)

Sweden

- **RISE** (before 2016 SP Technical Research Institute of Sweden, Innventia, Swedish ICT).
  - Innventia (Forest bias: FEX papermaking facility, Pilot plant for Nano cellulose, packaging, and more).
  - Swerea (Industrial renewal and sustainability bias: SICOMP Composite Laboratory).
  - SP Processum (leading biorefinering initiative in Sweden).
  - RISE Agrifood and Bioscience (formerly SIK - food and biotechnology focus).
  - SP Biofuels (motor fuel focus).

Available infrastructures – bioeconomy

Lithuania:

- **Few test and demonstration infrastructures dedicated development of the bioeconomy…**
  - Center for Physical Science and Technology (lagest RTO).
  - Scientific Research Institute, Nature Research Center (NRC).
  - Universities of Kaunas, Vytautas, Vilnius, Vilnius Gediminas and Aleksandras Stulginskis).

Bioeconomy – some key findings

A large (and growing) number of test and demonstration infrastructures - and technology service more generally – to benefit SMEs in the bioeconomy attempting to commercialize new products, services or processes.

There are overlapping as well as complementation areas of tech/test excellence, with:

- Sweden and Finland having strongholds in forestry and bioenergy from forestry.
- Norway having strongholds in maritime areas of the bioeconomy as well as forestry.
- Denmark having strongholds in food, feed and ingredients and water.
- And with all countries offering pharma/life science technology development services.

Available infrastructures – digital economy

Denmark

- **GTS Advanced Technology Group** (7 RTOs)
  - DELTA, with (IT) TestLab, (IoT and Smart) IdemoLab, SenseLab and Nordic IoT Center.
  - DTI, with Eco IT, Agri software, Danish Meat RI, PowerLabDK – Bornholm Test Island.

Norway

- **The Research Council of Norway** (48 RTOs)
  - Digital/IT integrated in services.
- **SINTEF**, with SINTEF Digital for acoustics, electro technical, Smart Grid Lab, ROBOTNOR.
- **SIVA** (incubation and test arenas).

Available infrastructures – digital economy

Finland

- **VTT Technical Research Center of Finland** (network of many VTT centers/RTOs).
  - VTT Expert Services (electronics, environment, vehicles, machinery).
- **5G Test Network Finland (5GTNF)**
  - National test arena for smart digital solutions.
- **HILLA VTT Technical Research Center of Finland**
  - Wireless ICT, automotive and traffic.
  - Nordic Test Cluster.
- **Traffic Lab**
  - Five test environment (mobility services, intelligent traffic, road and driving automation, electrification).
- **Tampere University of Technology**
  - TUTLab with ProLab (light weight engineering) and FabLab (digital learning environment), and SMACC (smart machines and manufacturing).

Available infrastructures – digital economy

Sweden

- **RISE** (before 2016 SP Technical Research Institute of Sweden, Innventia, Swedish ICT).
  - RISE SICS (digitalization of products, services and business).
  - RISE ICT (Acreo – lab for smart living and urban smart solutions, eHealth, service distribution, broadband, fiber, Nano electronics, data centers, etc.).
- **Swerea (part of RISE)**
  - Electronics Lab.
  - Virtual Lab.

Lithuania:

- **Kaunas IT Open Access Business Lab**
  - Eye tracking lab.
- **Otherwise mostly education and research**
  - Universities of Vilnius, Vilnius Gediminas and Center for Physical Science and Technology (lagest RTO).

Digital economy – key findings

A large (and growing) number amount of test and demonstration infrastructures - and technology service more generally – to benefit SMEs in the digital attempting to commercialize new products, services or processes.

There are overlapping as well as complementation areas of tech/test excellence, with:

- Sweden and Finland having strongholds in communication.
- Norway having strongholds in digital economy related to energy and maritime.
- Denmark having strongholds in the digital economy related to energy.
- The emergence of specialized test arena in Estonia, Latvia and Lithuania.

Financing test services

- The vast majority of test and demonstration services are paid fully by the SMEs themselves.

- Some pilot test and demonstration activities are paid in part with public R&D support, often in collaboration with RTOs.

- Widely used are innovation checks/vouchers to encourage innovation in SMEs by offsetting some of SMEs costs for test, demonstration and verification:
  - Innovation Vouchers in Lithuania
  - Innovation Vouchers in Finland (National – and in Tampere also on regional level)
  - InnoBooster in Denmark (& green, environment and energy test ”checks” by Ministry of Environment)
  - Innovation Checks in Sweden (& “digital checks” by SE Agency for Economic and Reg. Growth)
  - Katapult in Norway
  - Also Estonia has a Innovation Voucher scheme and Latvia will soon announce one.

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Interreg Baltic Sea Region

EUROPEAN UNION
EUROPEAN REGIONAL DEVELOPMENT FUND

There seem to be a number of opportunities for cooperation:

- Synergies in provision of test opportunities and services
- Exploit complementary areas of test excellence

How do we share?

- The “How-To” deliver test services to SMEs (push)
- Encouraging SMEs to making use of test services (pull)

Attracting SMEs - nationally

- Connecting the dots (do we have all the dots?)
- Facilitate mobility of SMEs across borders

Attracting SMEs - transnationally

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Thank you!

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