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Capacity Building Session: RRI: Tools for Enterprises and Stakeholders, 14th March 2018, Zadar (Croatia)

LIVING LABS as one of the example of RRI toolkit (Introduction to the concept – theoretical part)

Kristýna Čerbová, Czech Centre for Science and Society

Objectives

- What does Living Lab (LL) concept mean

- Living Lab and its benefits

- LL and RRI

- Basic phases of LL (e. g. Bristol LL and its methods)

- EnoLL

- Case study: Innovative Danish Living Labs
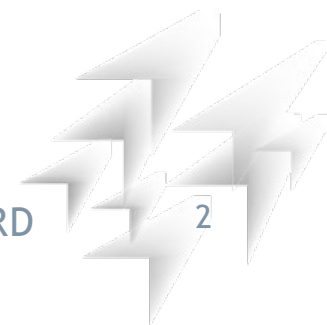
LL - definition(s)

- User-centred/driven, open innovation ecosystems

- based on a systematic user **co-creation approach**

  - integrating research and innovation processes **in real life** communities and settings.

- In practice, LLs place the citizen at the centre of innovation, and

- have thus shown the ability **to better tackle the problem and to mould the opportunitie**s

LL – definition(s)
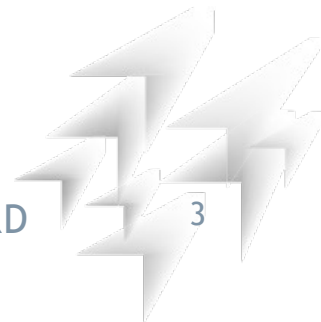
- Ecosystem for experimentation and co-creation with **real users in real life environments** → User-driven approach

- Essential principle = **Strong cooperation of researchers, developers, policy makers and end users on solving common problems (from idea via research, development and testing to real market) in the real world (Quadruple Helix structure)**

- End users are directly involved into research and development
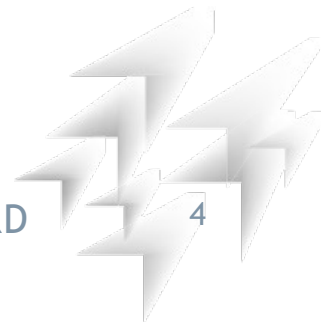
LL – definition(s)

- A living lab is not a test bed

- its philosophy: to turn users into value creation

- LL constitutes an experiential environment (experimental learning)

- LLs - used by policy makers and users/citizens for designing, exploring, experiencing and refining new policies and regulations in real-life scenarios

- This approach allows all involved stakeholders to concurrently consider both the global performance of a product or service and its potential adoption by users
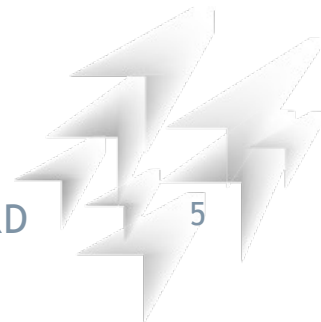
History of Living Lab(s)

- LL concept developed in the Massachusetts Institute of Technology (MIT Media Lab) in 2003

- Authors: William J. Mitchell, **Kent Larson**, and Alex Pentland

- Original function of methodology: an user-centered (user-driven) methodology for prototyping, validating and refining complex solutions

- Real life contexts

Impacts and benefits of LL

- **Integration** of the users

- **Reduction** of technology and business risks

- Beneficial to **SMEs**

- **Access** to a broader base of ideas

- (Could you imagine the others?)

LL and RRI

- The same pre-concept: the **ultimate changes** of our world

- RRI – Quadruple Helix stakeholder engagement

- LL – Quadruple Helix approach -activities and tools involving all stakeholders
  - INCLUSION:
    - Public sector
    - Universities
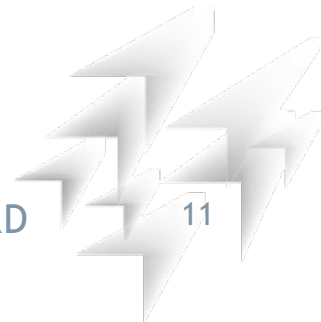   - Companies
    - Citizens

- Key (mutual) issues:

  - Ethics / Research integrity and ethical acceptability of the RRI/LL outcomes

  - Gender equality / Human resources, decision bodies and research dimension

  - Governance / Structural change to include all these issues in the RRI/LL system

  - Open access / To results from publicly funded research, privacy issues and even more: open science

  - Public engagement / Towards a more open and inclusive RRI/LL

  - Science education / Provide competences for the responsible citizens society needs

LL and RRI

- The elemental conviction that the whole society is facing many challenges today

- A whole new framework: new thinking, new principles, new processes

- A more society-centered Research and Innovation

- A wealth of funds (Horizon 2020...)

- As RRI is about including all actors and issues...LL is about iteration of all the phases and including all the actors

Bristol Living Lab

- Run by KWMC

- Aims
  - (digital) technologies can be **utilized** to meet **local needs**
  - **Co-creative** communities, individuals
  - **Local challenges**, new possibilities

- New ways of measuring the problem
  - "The Bristol Approach to Citizen Sensing"

- Case study: damp in the households...

- Bristol Approach to Citizen Sensing

Bristol Living Lab Approach

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- Urban participatory sensing - citizens with sensor technologies (→data)

- To collectively monitor the environment.

- Locals involved in design + testing + evaluation

- User-driven approach: to understand the issues people care about.

  - The Bristol Approach is a new way of working that puts communities and their needs at the heart of innovation.

Bristol Living Lab Approach
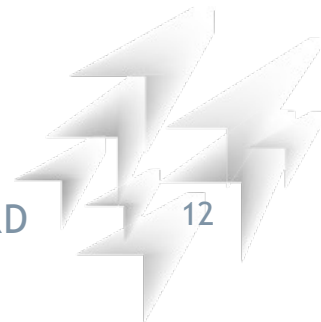
- The Bristol Approach offers a process, set of resources and way of thinking about data and its role, where:

  - Human behaviour is taken more seriously than technology

  - There is plenty of use generation and sharing of evidence

  - There is a focus on **developing data skills**

  - Work is integrated with other work in cities

  - Hardware and technology are used as and when they are useful

  - **Citizens' roles** are central

  - Projects are **open and shared**

 - **Opportunities** for new business models and enterprises are created

Bristol Living Lab Approach – Key learnings:

- Be patient and open minded

- What we know + need to know + broad the network (of stakeholders)

- Offer a suitable programme (to involve all partners)

- Design iteratively

- Take steps to address the concerns

- Create an engagement team who can support stakeholders

- Finally, celebrate achievements together :-)

Bristol Living Lab Approach 6 phases
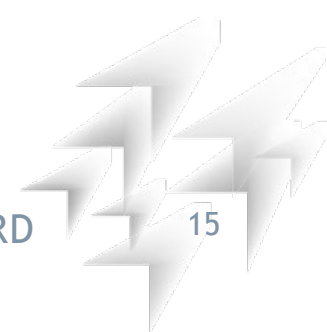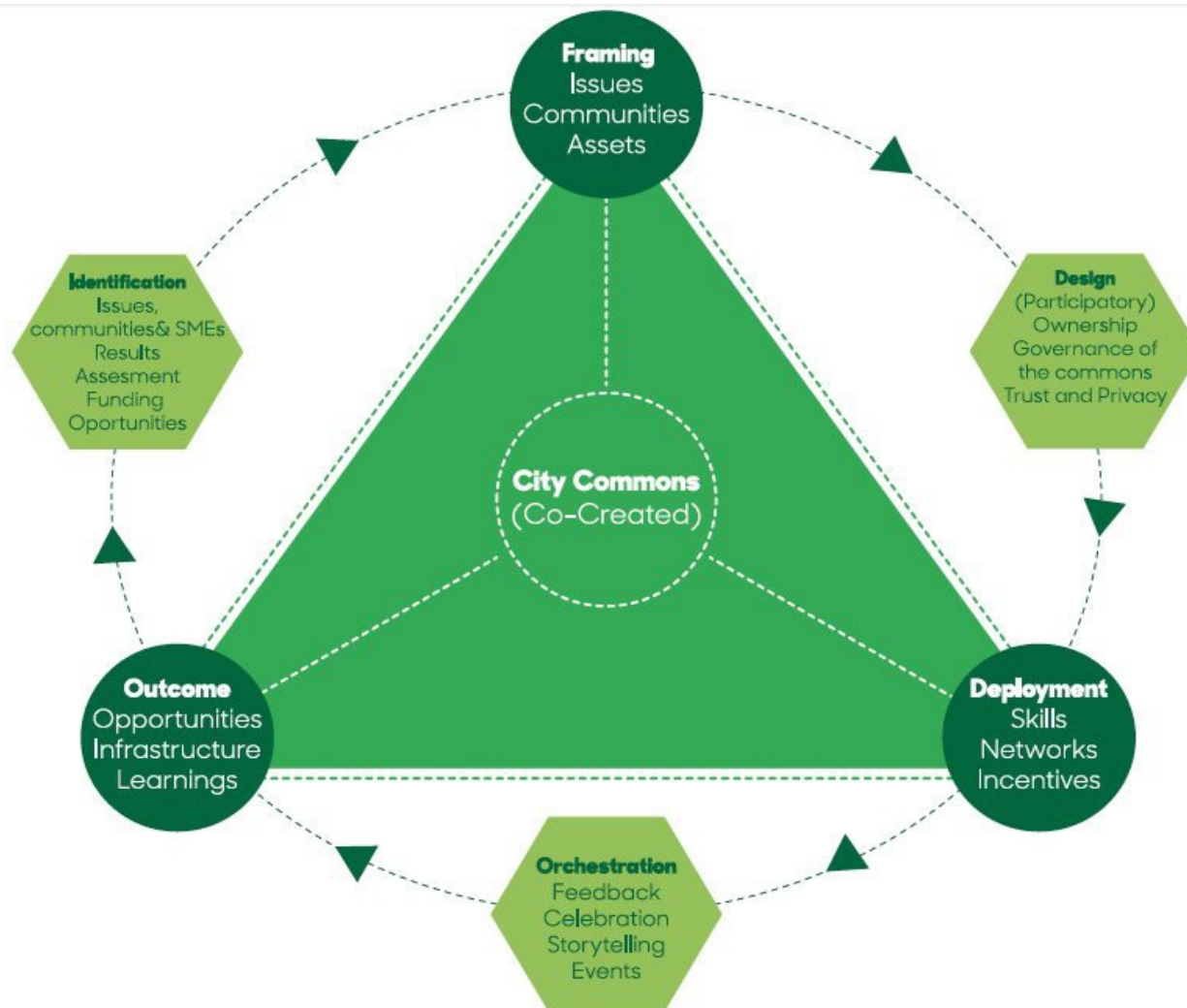
The Bristol Approach

The Bristol Approach framework contains 6 **phases:**

1. Identification

2. Framing

3. Design

4. Deployment

5. Orchestration

6. Outcome

It has been structured to ensure that community technology programmes are driven by issues that are relevant to local needs and take place at community level, with **local people actively involved in design, testing and evaluation.**
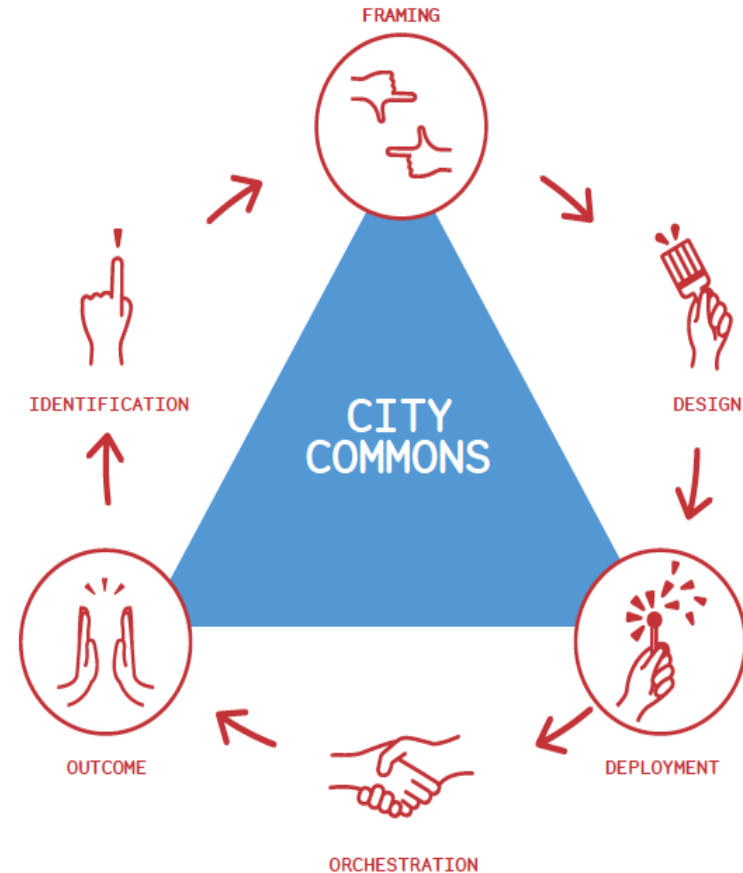
- Citizen Sensing (conclusion): people act as, sensor (gathering data) to tackle an issue that is important t them.

- It enables them to use technology for social good.
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– 3eHouses - a European partnership project that helped local Council tenants reduce their energy consumption and **change their energy behaviour. Equipment** was installed in 100 homes to **monitor** electricity and gas and participants could view their usage on a tablet computer via a visual interface developed by an artist. A variety of methods were used to engage and support participants, and the artist worked closely with participants to ensure that the information was accessible and understandable.

CO-CREATION

EVALUATION

EXPLORATION

EXPERIMENTATION
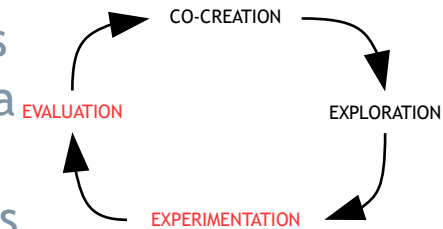
- ## Co-creation:

  – co-design by users and producers – diversity of views, constraints and knowledge sharing

  – bring together technology push and application pull (i. e. crowdsourcing, crowdcasting) into a diversity of views, constraints and knowledge sharing that sustains the ideation of new scenarios, concepts and related artefacts.

  – **Bristol LL:** "... a place where citizens, artists, technologists, businesses and public sector organizations come together to **co-create** ideas, tools and technologies that address local challenges, to innovate and to explore new possibilities."

CO-CREATION

EVALUATION   EXPLORATION

EXPERIMENTATION

LL Activities (phases)
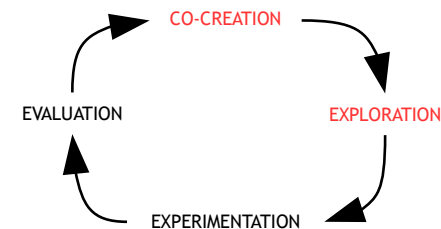
- ## Exploration:

  - engage stakeholders (especially end users) for discovering emerging scenarios, usages and behaviors through live scenarios in real or virtual environments (e. g. virtual reality, augmented reality, mixed reality)

  - **Bristol LL:** Citizen Sensing' is a process = people build, use, or act. This sensing process could involve creating a bespoke temperature sensor from scratch or using a piece of technology that already has an in-built sensor, like a smart phone. However simple or complex the technology, and whatever the data being gathered, citizen sensing is about empowering and enabling people to use technology for social good.
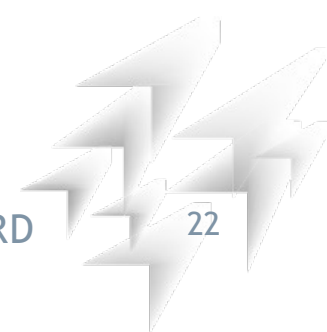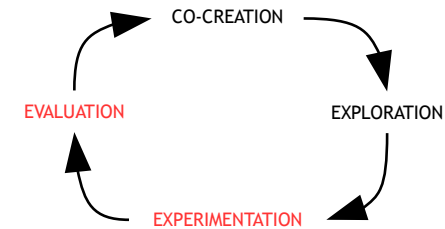
CO-CREATION

EVALUATION

EXPLORATION
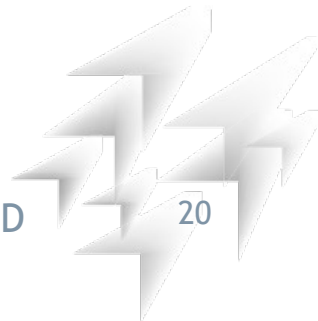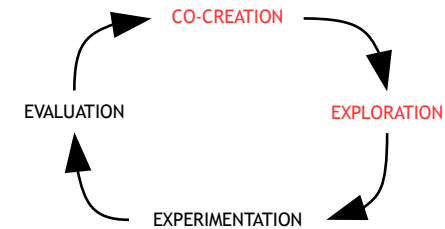
EXPERIMENTATION

- ## Experimentation:

  – implementing live scenarios within communities of users, including collecting and analyzing data for evaluation activity

  – **Bristol LL**: Citizen sensing – their own work and cooperation with the sensors...

CO-CREATION

EVALUATION   EXPLORATION

EXPERIMENTATION
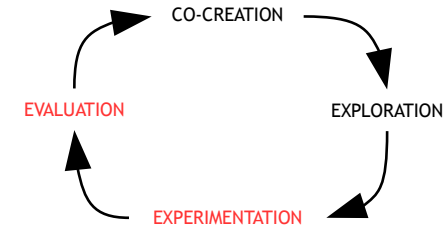
- ## Evaluation:

  - assessment of concepts, products and services according to socio-ergonomic, socio-cognitive and socio-economic criteria

  - assess new ideas and innovative concepts as well as related technological artefacts in real life situations through various dimensions such as socio-ergonomic, socio-cognitive and socio-economic aspects; make observations on the potentiality of a viral adoption of new concepts and related technological artefacts through a confrontation with users' value models

  - **Bristol LL**: "…validating and refining complex solutions in multiple and evolving real life contexts…"

CO-CREATION

EVALUATION   EXPLORATION
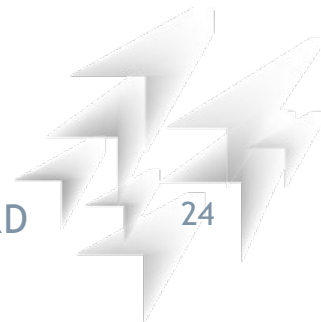
EXPERIMENTATION

LL Principals
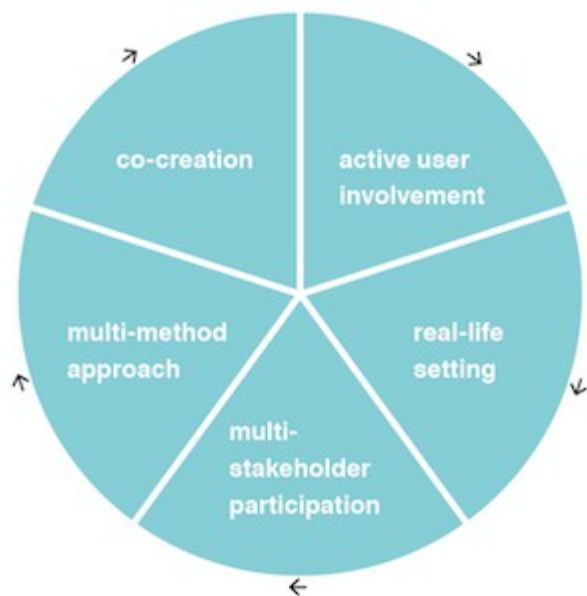
Living Lab – 5 key elements

1. Active user involvement

2. Real-life setting

3. Multi-stakeholder participation

4. Multi-method approach

5. Co-creation (i. e. iterations of design cycles with different sets of stakeholders).

LL Summary

- Who? - Stakeholders (accent on end users)

- What? - Innovations (products, services, business models, technologies, data...)

- How? - Cooperation on innovation process (multi-method co-creation)

- Where? - Real life environment (with use (of) virtual reality)
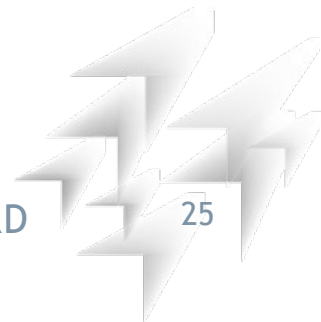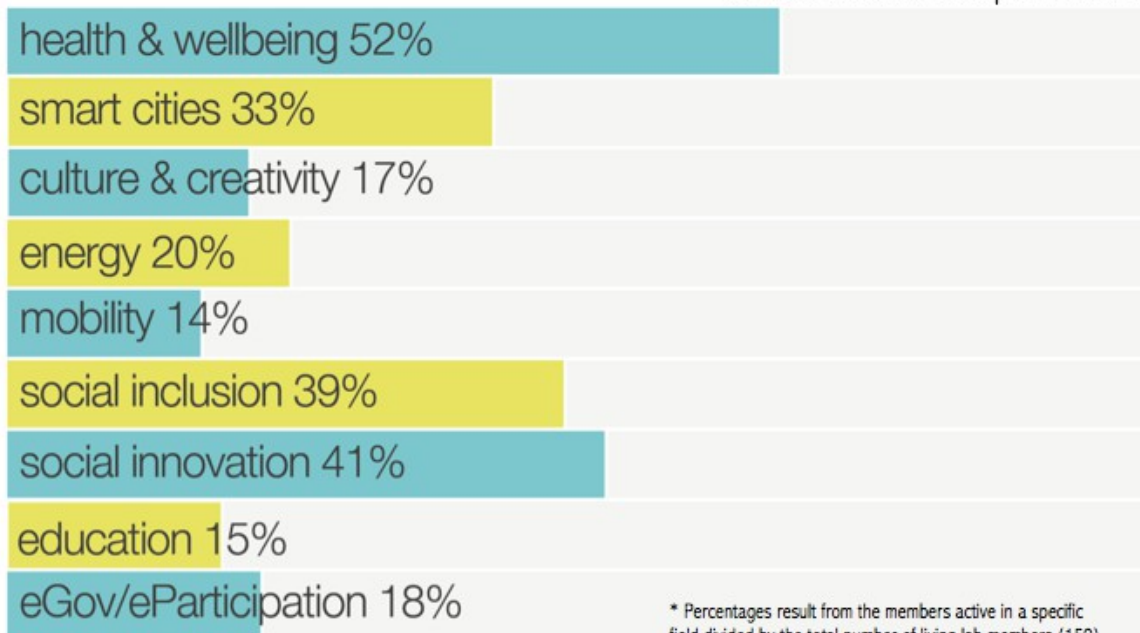
ENoLL

- European Network of Living Labs

- Launched in December 2006

- Non-profit association

- Brussels (Belgium)

- Web: openlivinglabs.eu

- **OpenLivingLab days** event

- Publications: **Introducing ENoLL and its Living Lab community, Citizen-Driven Innovation Handbook**
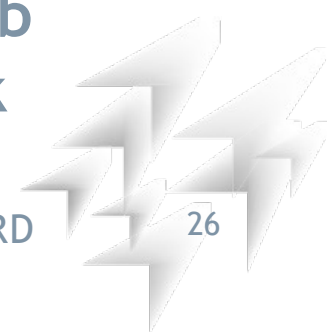
ENoLL
AREAS OF WORK

ENoLL Members are active in the following thematic areas:*

ENoLL combines vertical specialization domains (health, smart cities, creativity, education) with horizontal and territorial specializations

health & wellbeing 52%

smart cities 33%

culture & creativity 17%

energy 20%

mobility 14%

social inclusion 39%

social innovation 41%

education 15%

eGov/eParticipation 18%

* Percentages result from the members active in a specific field divided by the total number of living lab members (150)

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- ~400 LLs

- ~170 active members

- 20 EU countries

- 5 continents

  - https://www.slideshare.net/openlivinglabs/open-living-labs-pppp

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THANK YOU FOR YOUR ATTENTION

Kristýna Čerbová (CCSS)

And we will continue now in a more practical way…

with Barbora Špádová (CCSS)