The Nordic Baltic 2018 Food & Nutrition Initiative on how to take advantage of digitization and research infrastructure thinking

How to build a food alliance & consensus around the idea of a Research Infrastructure? Experiences from Denmark

Bent Egberg Mikkelsen, AAU - CPH

Abstract: Research Infrastructures is an important component of European and national research policies. But do we need them for Food, Nutrition & Health? This paper reports on experiences from recent years in trying to build an alliance in Denmark around the idea of a research infrastructure around Food, Nutrition & Health. It reports on the alliance building efforts between universities and between academia and non academic partners. The report feeds into the Nordic Baltic 2018 Food & Nutrition Initiative on how to take advantage of digitization and research infrastructure thinking.

A Research Infrastructure for Food, Nutrition & Health - in my country, in Europe or both?

Department of Nutrition, University of Iceland

May 11, 2018

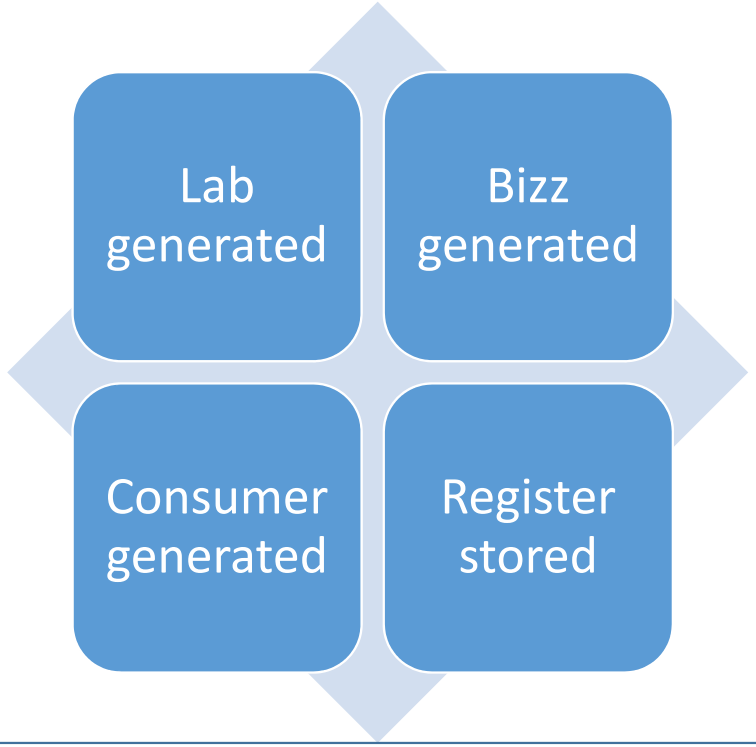
Be prepared to be questioned

- Very few people knows what is a Research Infrastructure
- So have your examples lined up
- And get ready for some techplomacy

Food Research Infrastructures
2 dimensions. Hard & Soft

Hard part: labs, devices, machines etc

Soft part: multi source data



Digital Foodscape Labs

AAU's 2018 strategy for Learning, Create & CMI

Advice 1: Create YOUR narrative

In DK its all about connecting FoodLabs

OpenFoodData

FNHRI - Denmark

The Danish National Node for smart use of data & labs in Food Nutrition & Health is governed by a board. Members are Bent Egberg Mikkelsen, Professor Aalborg University, Head of Department Michelle Williams, Aarhus University, CEO, Leif Nielsen, Confederation of Danish Food Industries, Morten Andersen Linnet, Director of Research Policy, Danish Agriculture and Food Council. Niels Gøtke, Head of Division, Agency for Science and Higher Education. Members from DTU and KU will be invited.

Danish National N

Smart use of data &

Nutrition & Health

Most people can see the idea of connecting labs
And to connect to the international

- Behavioral nutrition Lab
- Sensory lab
- Chemical lab
- Product lab

Keep roadmaps apart

- A national roadmap. Runs -2020. Then a new one
- In Denmark its called the FoodHay
- Getting on the road map is not the same as getting money
- Idea: get on the road map. Then annual envelopes can be granted
- The international road map ESFRI requires an alliance between national nodes
- Good question is then: whats the relation between node and ”foodhay”
- And dont forget the ”approval”

A slow train coming

- Its not a speed train
- But you need to get ready on the station
- Hop on board
- Or stay put
- It gonna run in any case

Recent policy papers says the same

The food sector compared to travel tech, health tech and fintech are lacking behing in terms of taking advantage of "the digital"

Why trace consumption patterns the digital way – what we know from Richfields

Some stakeholder views on Big big food data analytic and “food & the digital”

*”We have so many data we **dont know what to do** with them ☺”*

Chief data analyst, Major Danish Retailer

*”Something is rotten in the state of the retail sector. **Its changing but we dont know how**. What we know is that its digitally driven”*

Major Danish Market Intelligence Bureau with inspiration from Shakespeare

*”Why dont you do a **couple of use cases**”*

Plenary discussion at Nordic Richfields stakeholder WS, Oct 3 Lund

Stakeholders workshop report (2017). Richfields D 8.3. Kwabena Titi Ofei, Bent Egberg Mikkelsen, Haris Hondo, Erik Kaunisto, Sophie Hieke

Business Generated Data Case Studies. Richfileds D8.1 Bent Egberg Mikkelsen, Kwabena Titi Ofei,Haris Hondo, Erik Kaunisto

WORLD-CLASS FOOD INNOVATION TOWARDS 2030

Bringing Danish Research Solutions to the Globa

Sustainable Food Production

A: fødevarer

Kronik: Er vi klar til Forskning 4.0 i fødevaresektoren?

DEBAT 17. april 2018 kl. 4:45 | 0 kommentarer

ng inden for fødevarer

g Mikkelsen er professor ved Aalborg
t, Morten Andersen Linnet er
gspolitisk chef i Landbrug & Fødevarer, og
er branchedirektør i DI Fødevarer Illustratio

oto

stil dig en teknik, der kan identificere den enke
ved hjælp af billedgenkendelse – og som vil gø
devaresvindel meget sværere. Eller en blockchain
vor alle led i forsyningskæden deler data. Hvor
ed et tryk på tastaturet. Eller et virtuelt supermarke
brugere – blot ved invitere dem ind i det virtue

Use case 1: Know now or in 5 years?

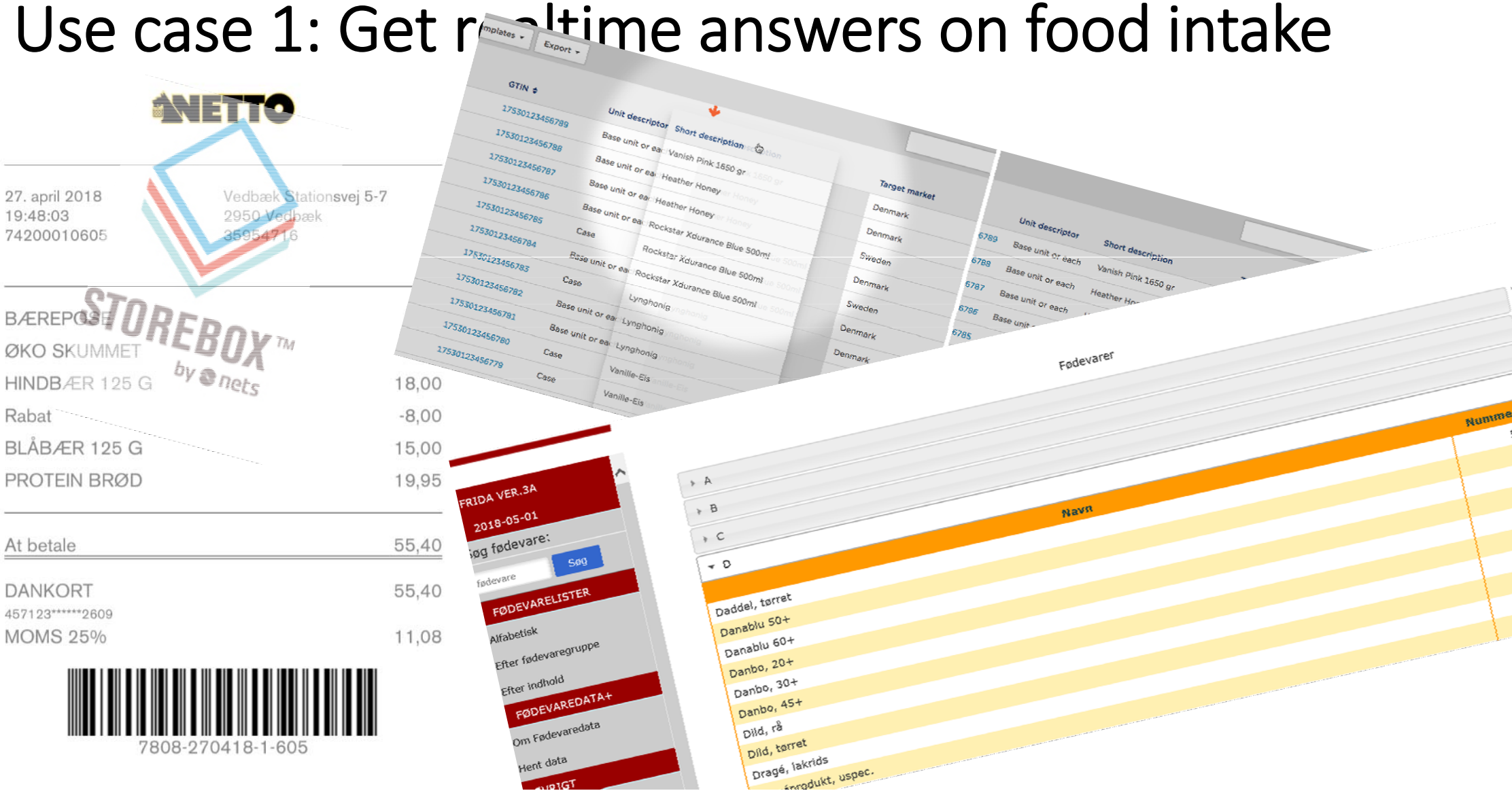
Get realtime answers on food intake

- 7 day food record
- High drop out rate
- Primarily ressource full respondents
- Labor intensive data cleaning
- Five years before reporting

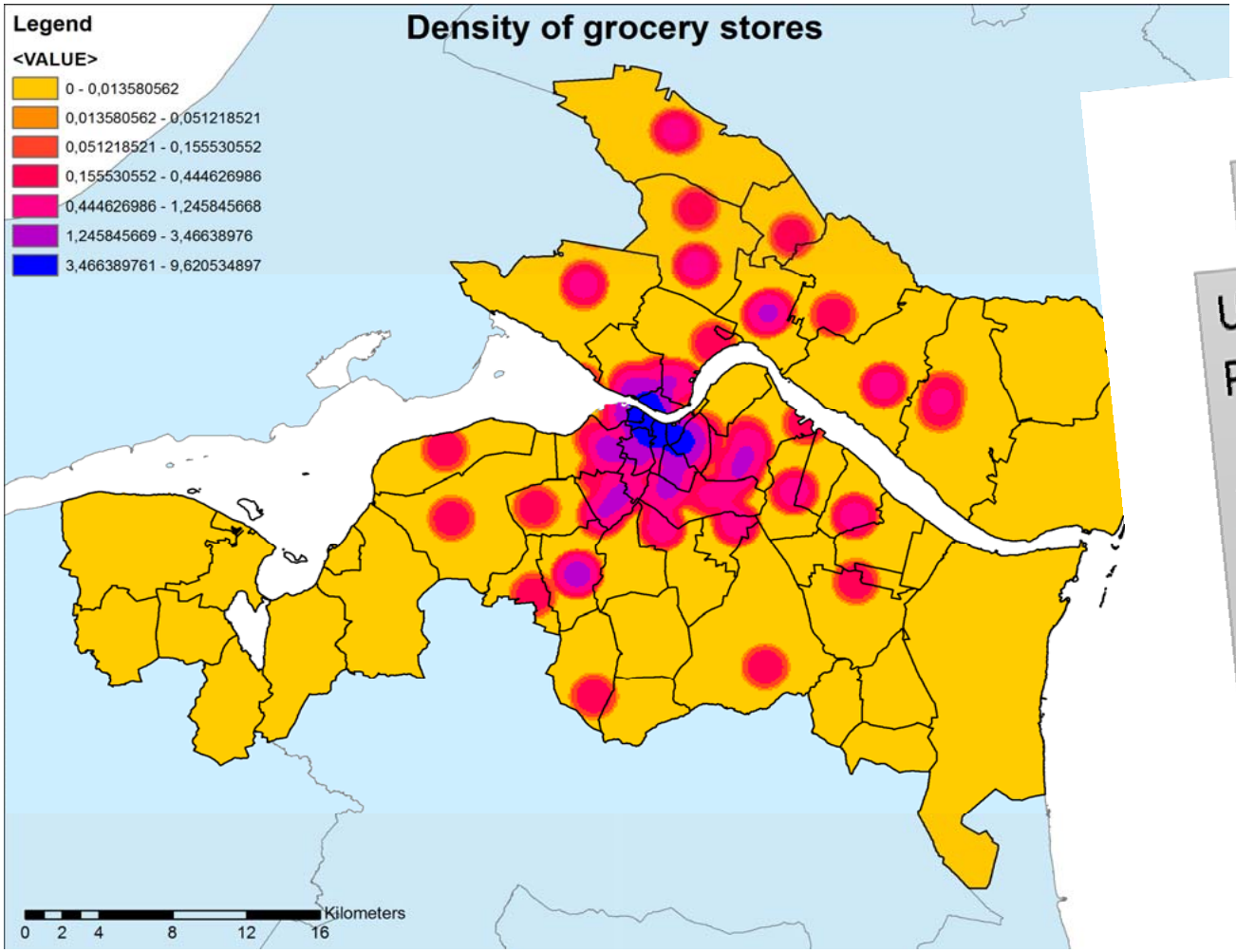
- Costumer generated
- Card based (loyalty, credit etc)
- Directly interface to TradeSync
- Realtime sourced
- Based on DonateYourData/sharing economy

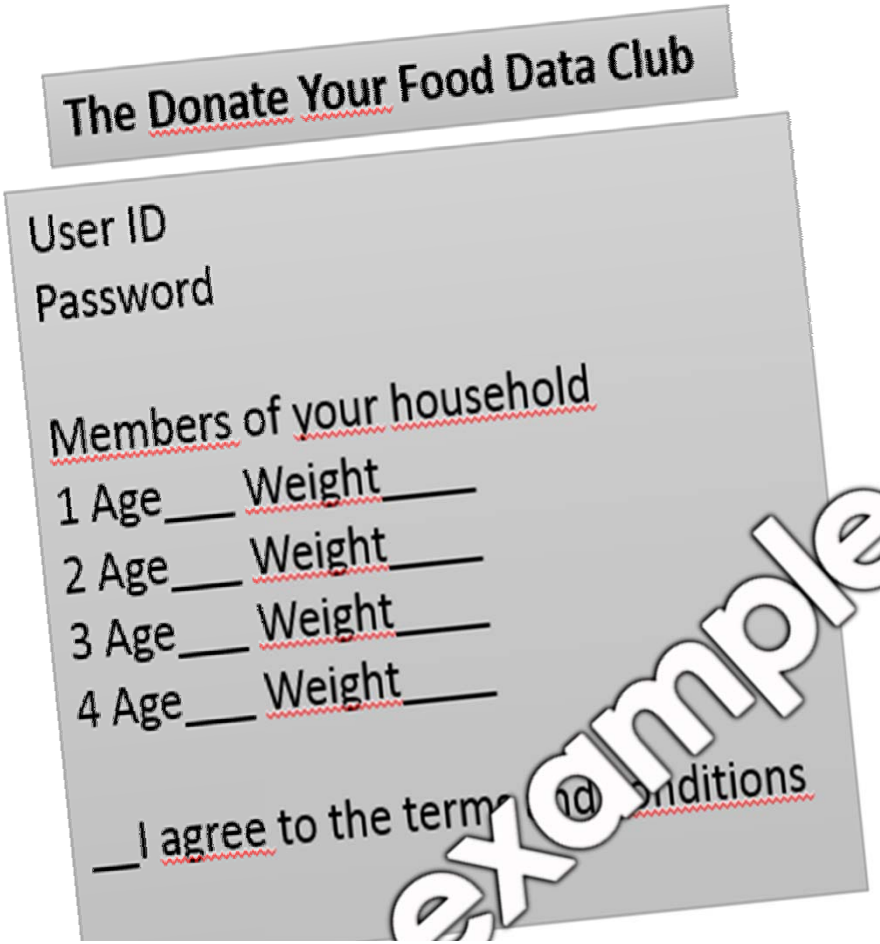
”Your idea of a digital data platform is the future but ***you needa’ come back in 2 years****.”,* Deputy director, DK Govennment Food Agency

Use case 1: Get realtime answers on food intake



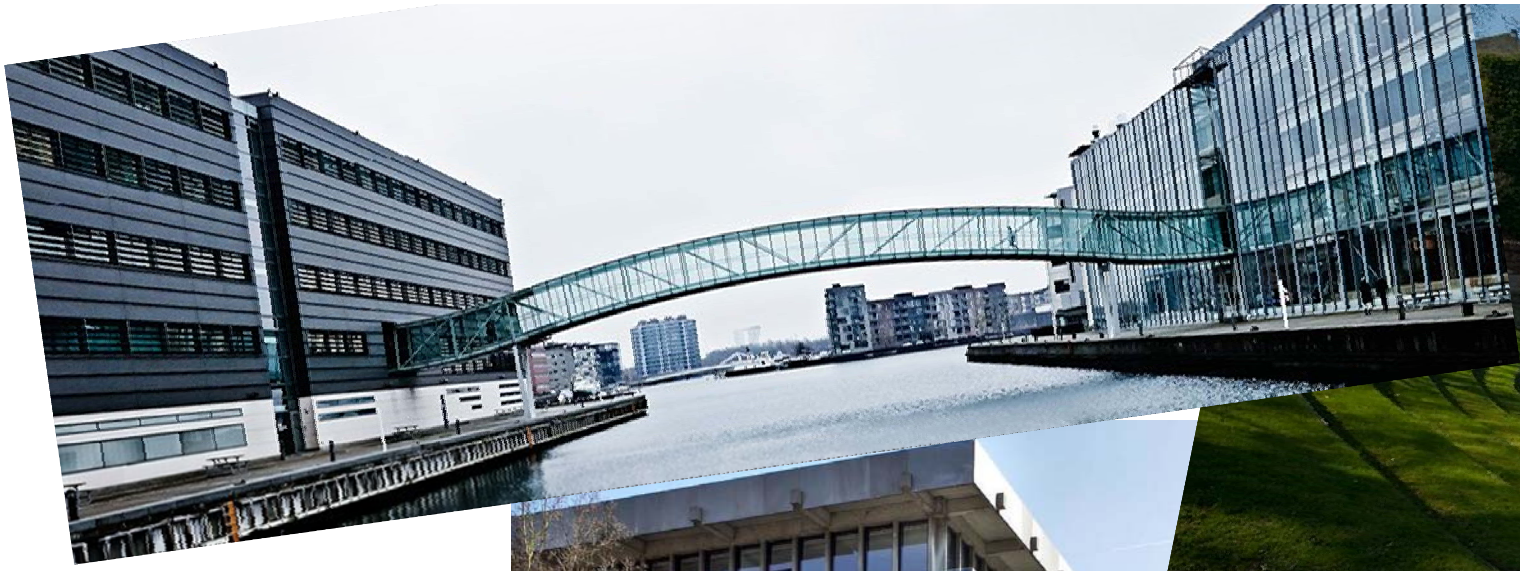
Replacing by realtime consumer food behavior tracking – the Storebox/Tradsync approach

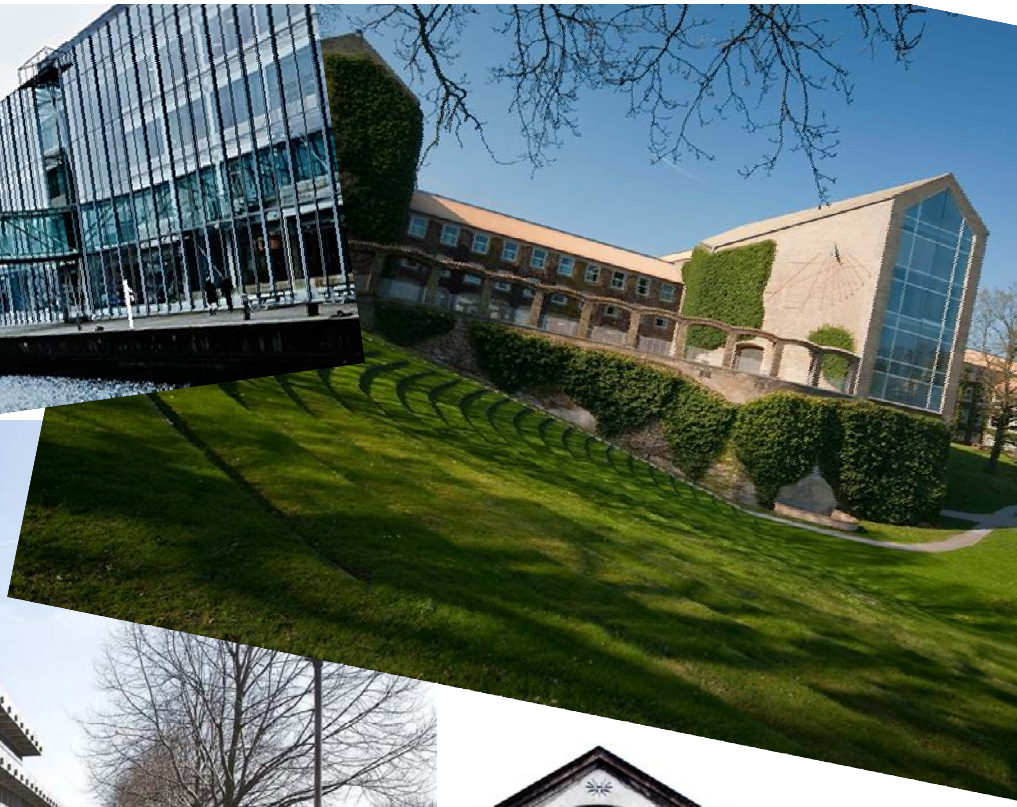




How to prepare

- How to create an alliance?
- And become a national node?
- Start talking

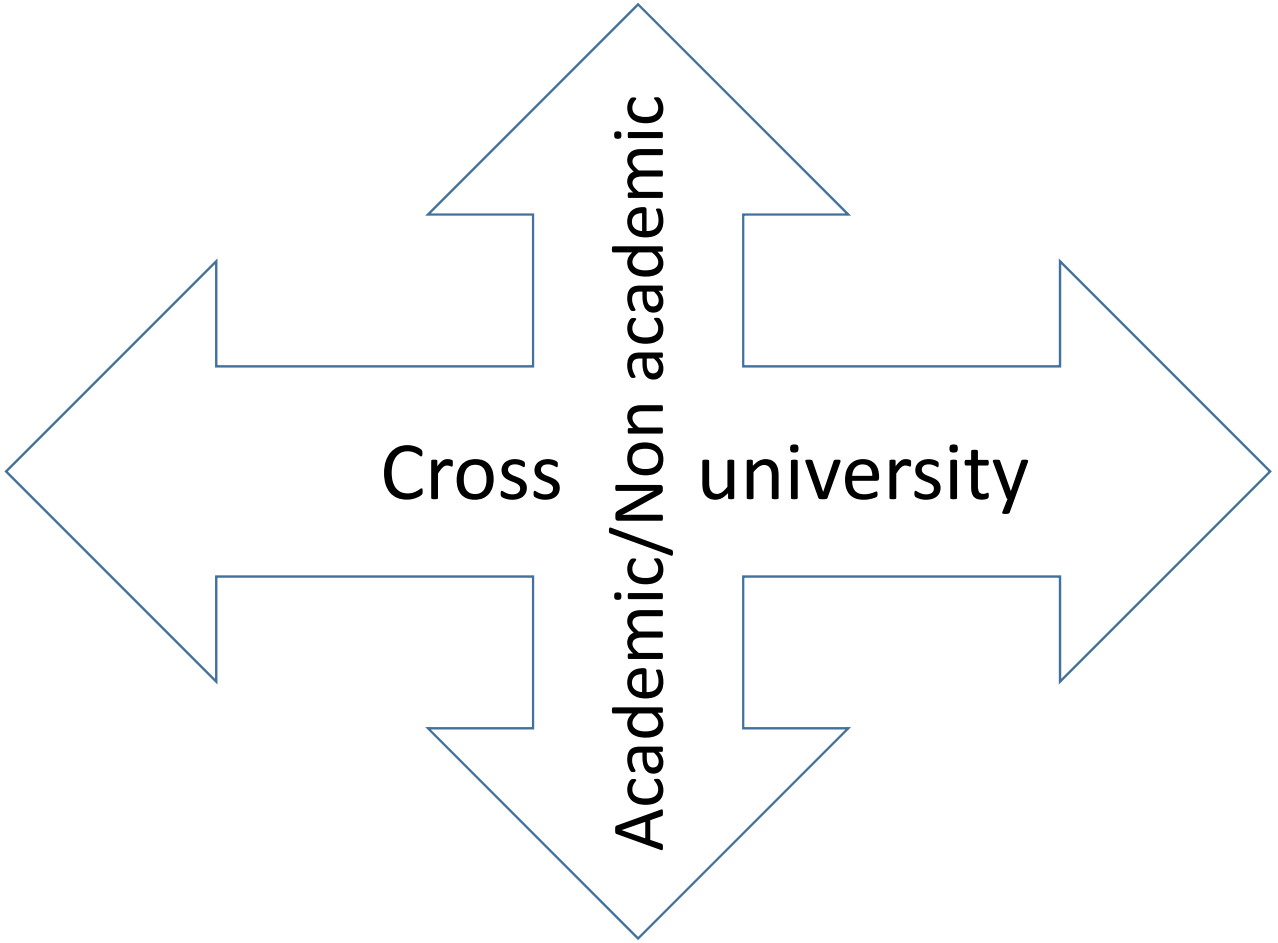




Non academic

- Confederation of Danish Food industries (Fødevareindustrien)
- Food Agri Council (Landbryg & Fødevarer)
- Food Agency/Food Ministry
- Danish Trade (Dansk Erhverv)
- Horesta
- Danish Dietetic Assoc (Kostforbundet)

Two dimensions of alliance building



How to explain the RI idea? Negative and positive

- **Is not**
- A single big source data source
- A turn key business
- A profit undertaking
- A static phenomena
- A single country activity
- A competitor to traditional market intelligence

Is

A multiple big source data platform
A European activity
A patchwork of different sources
A business
A data democracy
A dynamic phenomena
An infrastructure for research
…. and hopefully something more

Take home

Step	Do what	Why?	Remarks
1	Study the ESFRI and the parallel national RI agenda	They are governing all decisions and grants	Don't let the paperload and the complexity scare you
2	Attach to the "food and the digital" agenda	AI, IoT and BCT is nonsense to most people in the sector	Consider develop and test use cases along with industry such as Food Hackathons etc
3	Read and cite recent EU and national policy papers and strategies	Be surprised how many of them speak about digitization, AI, BCT, IoT etc	Note how few food companies have experiences here
4	Start working with Science ministry	They prioritise RI grants both EU wise and nationally	In Sweden Vetenskaprådet. Use the Danish and Dutch experiences where relevant
5	Emphasize that RI has both a soft side ("the Big data") as well as a hard side ("the labs" and the "small sensors")	The digital agenda can create growth also in the ICT industry	"Big science" RI's as ESS and Max IV are good examples of "hard" mode RI's
6	Develop "techplomacy" among actors in food system	Few people know what is a Research Infrastructure	Spend time on "relations management by coffee drinking"
7	Take advantage of the fact the food sector is lacking behind in terms of digitization	Point is that private sector can benefit if food science take the lead in digitization	Most food companies organisations know that "something digital" is going on. Only they understand completely what
8	Work on alignment between food universities	Most people will understand that future science is too complex for uni's NOT to cooperate	Most people can understand the "projectitis" fever tends to result in lack of "permanency"
9	Create consensus among other actors of food system: industry, retail and foodservice	The food sector KNOWs that its an slow adoptor compared to FinTech, EduTech etc	Most people can understand the nee to recycle and share data. Its all about circular and sharing economies
10	Go public as soon as an alliance is created	Public support is crucial for the food RI agenda	Universities and research might in addition benefit from strengthened industry relations

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Pre CPH Food Summit training course

På gensyn i sommer København