

Navigating the Twilight Zone

Pathways towards digital transformation of food systems

Mansholt Lecture 2021

Sjaak Wolfert, Brussels, 22 Sep. 2021

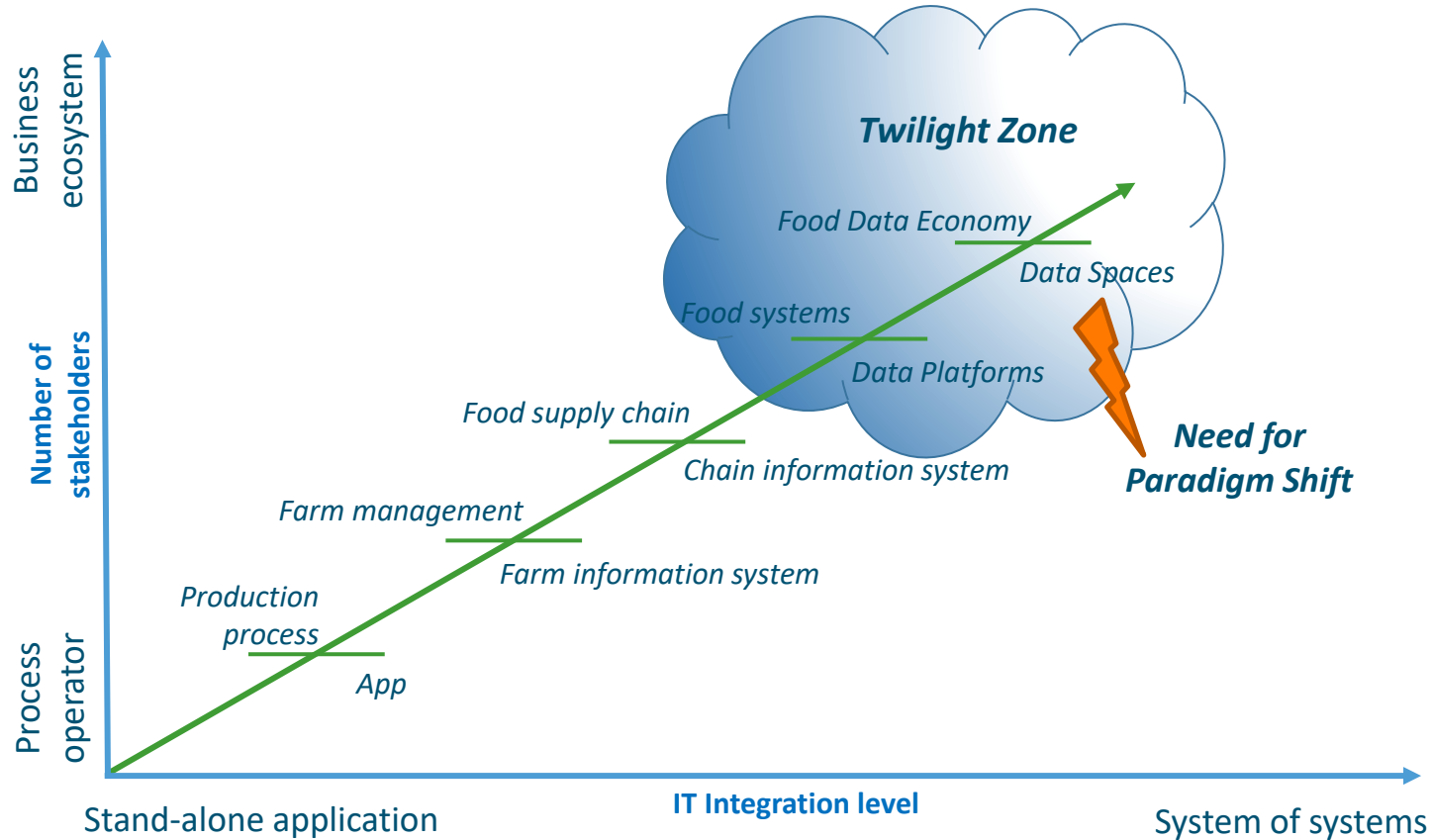


Outline of this lecture

1. Entering the Twilight Zone of digital transformation
2. The need for a paradigm shift
3. 5 lenses to look through when navigating the Twilight Zone
4. An integrated approach for navigating the Twilight Zone
5. Recommendations & conclusions

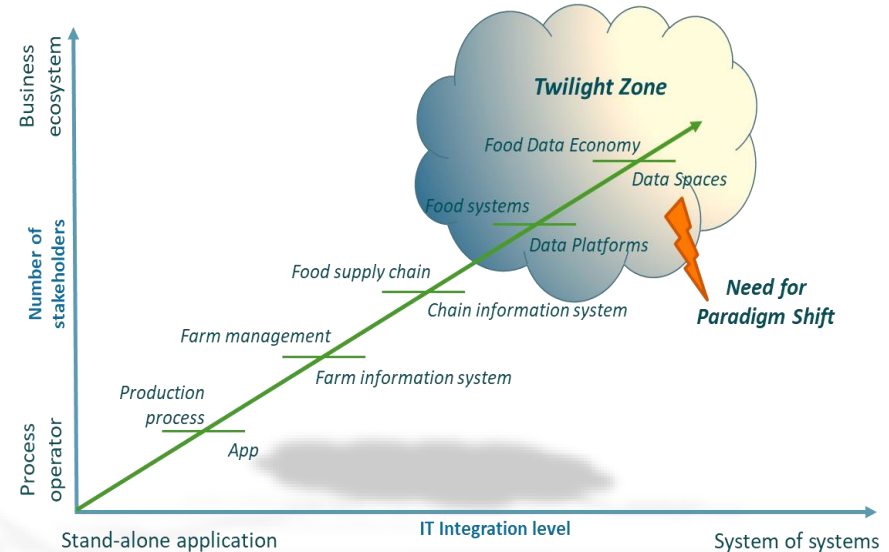


The evolution of IT in agri-food

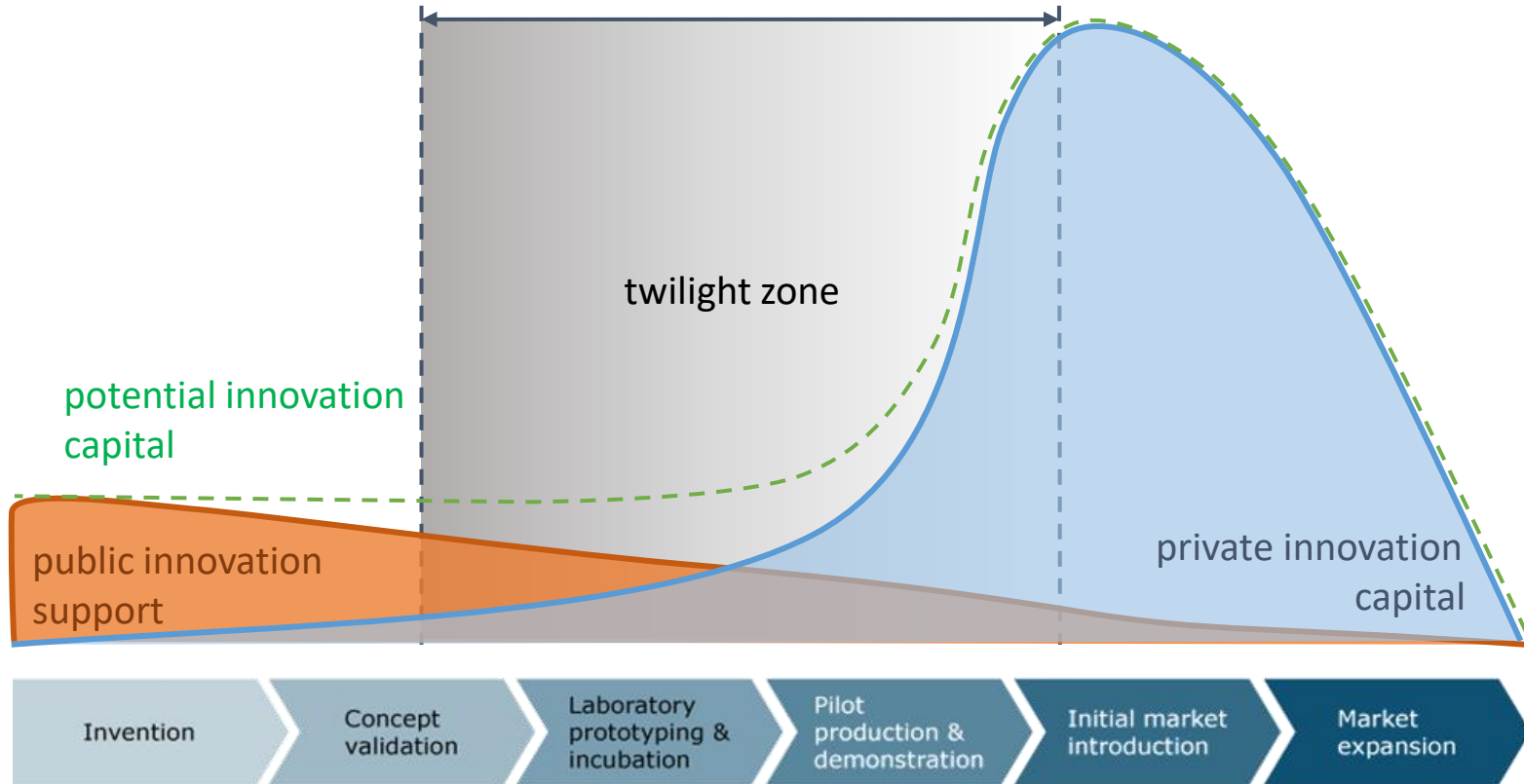


The need for a paradigm shift

- **Beyond** user-centred design
- Focus on *data sharing* between multiple stakeholders in various roles
- (Eco)System of (eco)systems:
 - **Multi-sided** business models
 - **Complex** technical integration
- **Funding** also becomes complex



Utilizing public-private capital in Twilight Zone



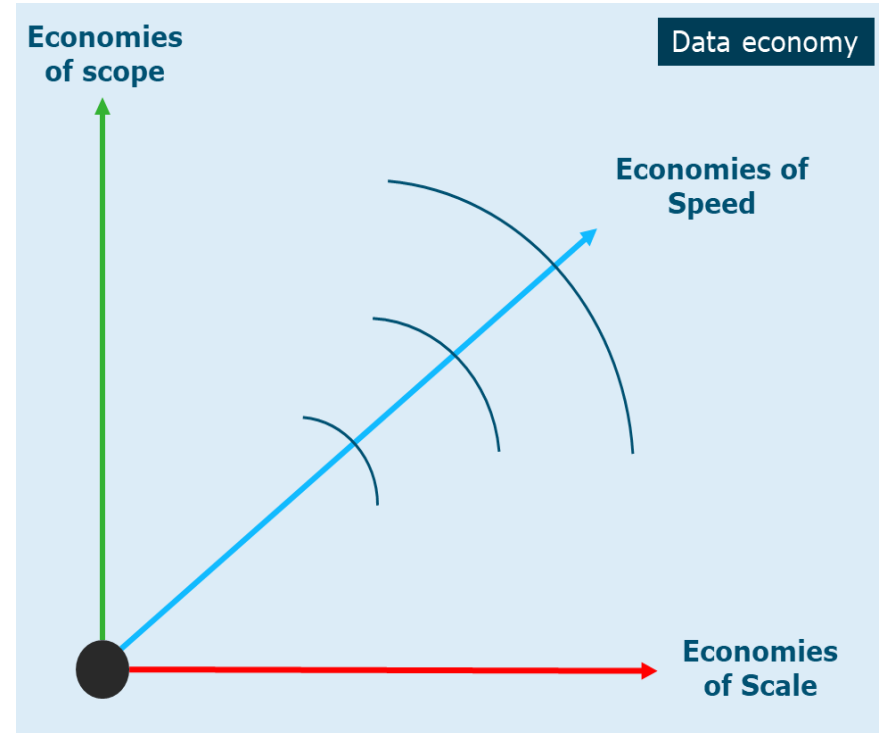
5 lenses to look through navigating the Twilight Zone in a responsible, successful way



1. Business models in the data economy
2. Responsible data sharing
3. Digital inclusiveness
4. Integrative artificial intelligence
5. Cross-sectoral integration

Business models in the data economy

- Multiple economies of digitalisation
- New values of data:
 - records > intelligence
 - currencies > governance
- Governance challenged at various levels: corporate, network, platform, ecosystem





Responsible Data Sharing

- Willingness to share data is key for digital innovations
- Make data sharing responsible:

fair data markets

control

trust

care for commons

- Co-creation with stakeholders of data-sharing values and practices

Digital inclusiveness

- Critical consideration when designing digital solutions, technological/organizational infrastructure
- Development of skills and expertise of existing and new stakeholders
- Exclusion: Inclusion:

deliberate?	unvoluntary?
beneficial?	harmful?
- Include explicitly in design!



Integrative Artificial Intelligence

- Data-intensive discoveries are enabled by new collaborations beyond disciplinary boundaries
- **Combine:** novel sensing technologies
artificial intelligence machine learning
big data infrastructures
- **Transparent and explainable,** well-founded on (existing) food systems knowledge

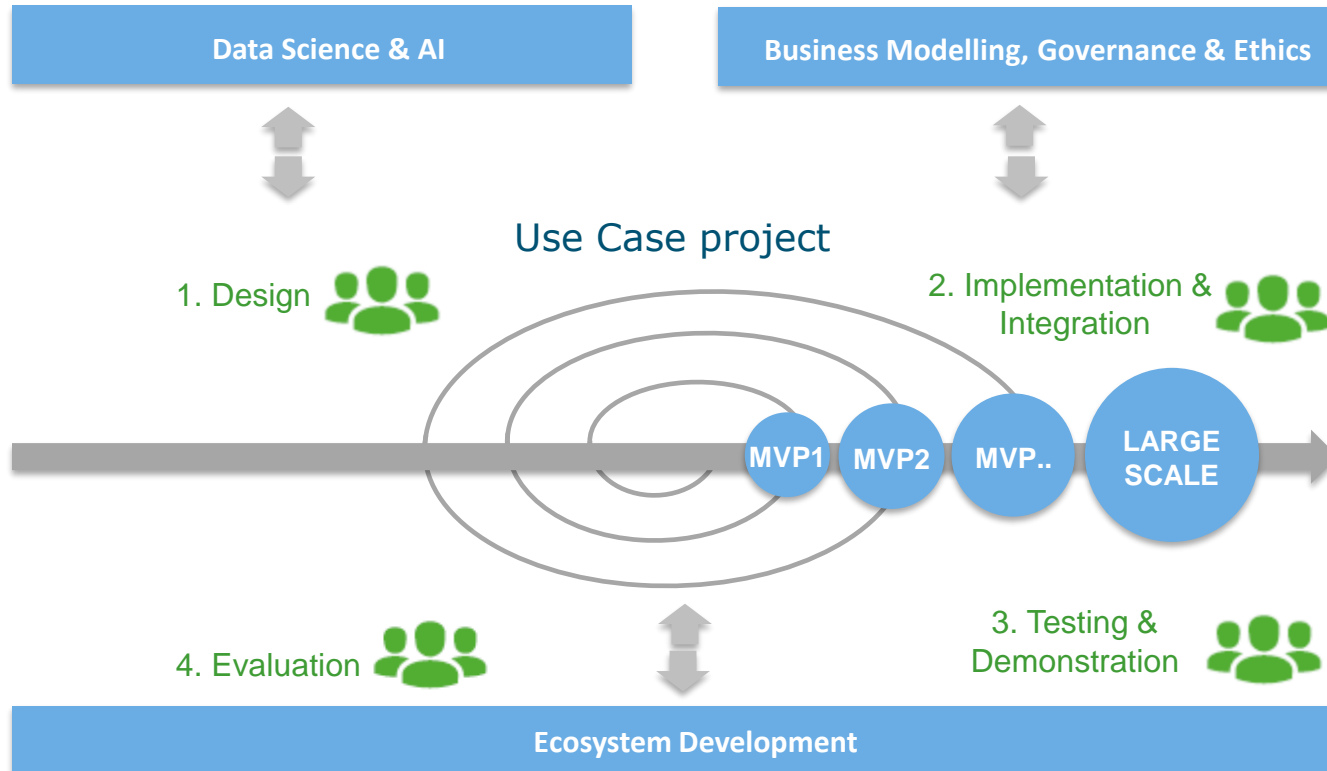


Cross-sectoral integration

- Integrated approach to rural development → cross-sectoral services and platforms
- Share and re-use knowledge and technology between sectors
- Active involvement of food systems in cross-sectoral standardization
- Opportunities for circular economies & citizen dialogues
- Connection with advanced IT ecosystem is key for food systems

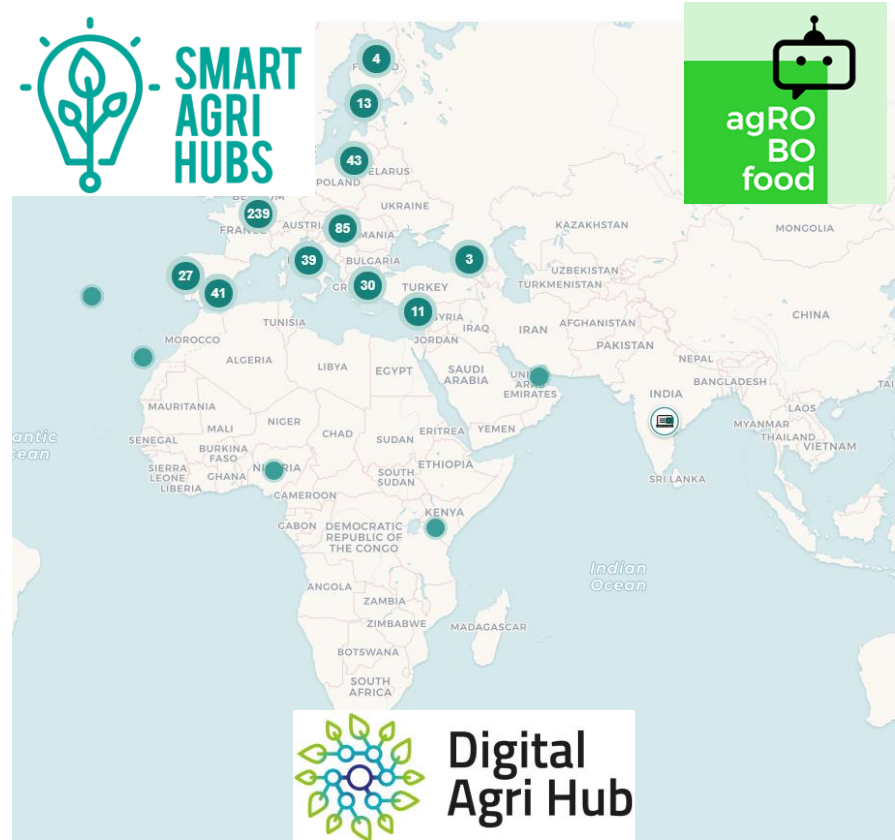


An approach for navigating the Twilight Zone



Connecting the Dots – Digital Innovation Hubs

- DIH: local one-stop shop in the proximity of stakeholders
- Service provision: technology, business and ecosystem development supported by Competence Centers
- Network of DIHs and Competence Centres:
 - share and re-use knowledge, also cross-sectoral!
 - continuous project alignment by matching public and private funding





Recommendations

Digital innovation projects in the Twilight Zone need:

- an integrated approach with constant interaction between all relevant stakeholders supported by multiple disciplines
- structural ecosystem development facilitated by aligning public and private funding instruments

Conclusions

- Digitalization towards a new Data Economy for Food Systems has entered a Twilight Zone
- Navigating requires looking through various lenses
- An interactive, multi-disciplinary, integrated approach is essential
- Fragmentation must be overcome by continuous alignment of public and private funding



Thank you for your attention!

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**See you in the bright future
of the new Data Economy
for Food Systems!**

