

Mit Big Data Analytics zu Innovationen

31. Mai 2018

Leo Brecht
Prof.Dr.rer.nat.
Partner

ALPORA
Gartenstrasse 4
6304 Zug
Switzerland

www.alpora.com
eMail: leo.brecht@alpora.com



Wer bin **ich**?

Uni Professor Ulm / St. Gallen
(seit 10 Jahren)



ulm university universität
uulm

Verheiratet, 2 Kinder

Unternehmer (seit 10 Jahren)

ALPORA
Your Investment Advisor on Innovation

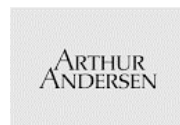
NETCULATOR

Passionierter Segler



Management Consultant
(seit 20 Jahren)

ALPORA
Your Investment Advisor on Innovation

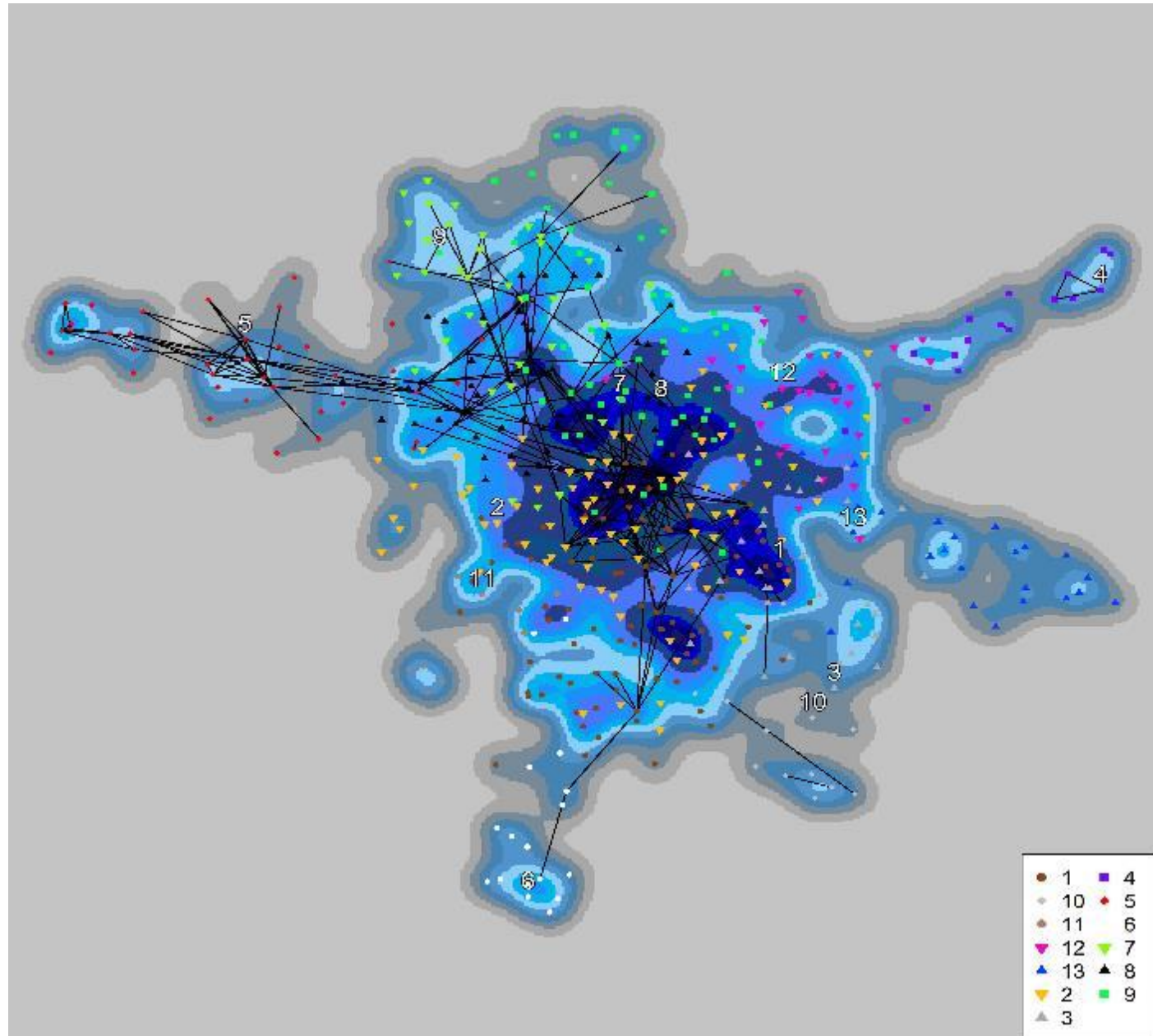


Arthur D Little

iTOP.PARTNERS
Design. Direct. Develop.

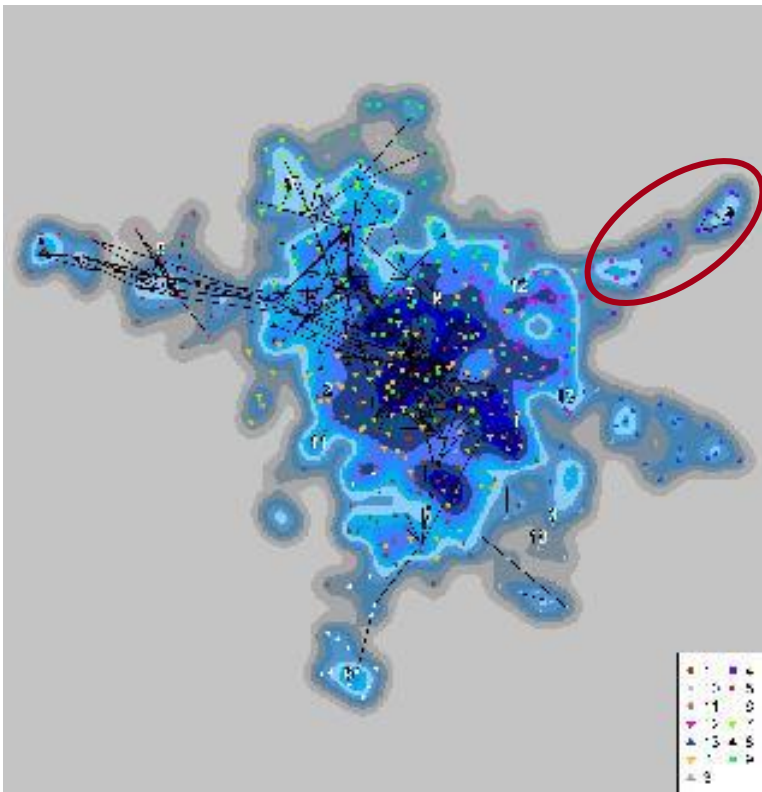


Was ist das?



Innovationstrends

Innovationstrends gemäß ANALYTICS-
Auswertung von ALPORA



1. 3D-Druck
2. Augmented Reality
3. Big Data
- 4. Blockchain**
5. Cybersecurity
6. Drohnen
7. E-Learning
8. Fintech
9. Intelligente Fahrzeuge
10. Internet der Dinge
11. Künstliche Intelligenz
12. Nanodevices
13. Robotik
14. Quanten Computer



ALPORA

Your Investment Advisor on Innovation

Technologie als Enabler für **Innovation**

Wenn Innovation vernachlässigt wird



**Wieso hat kein
Telekommunikations-
unternehmen
Whatsapp erfunden?**



**Wieso hat kein
Taxiunternehmen
Uber erfunden?**



**Wieso hat nicht
Kodak
Instagram
erfunden?**



Unternehmen müssen laufend Ausschau nach neuen Innovationsfeldern halten, um neue Chancen **und mögliche Bedrohungen** zu erkennen.

Disruption folgt einem Muster



Disruption aus der Nische

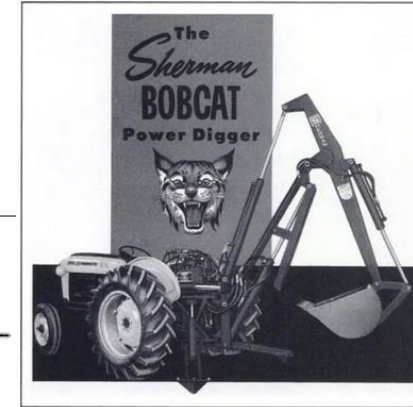
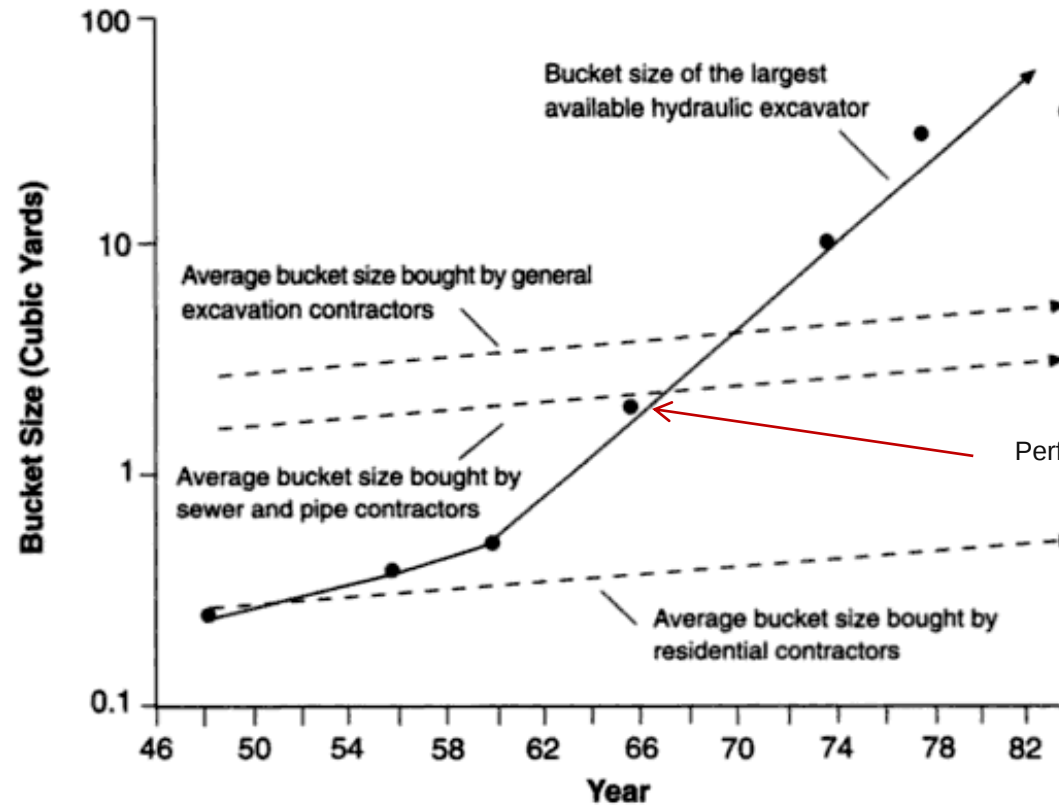


Figure 3.3 Disruptive Impact of Hydraulics Technology in the Mechanical Excavator Market



Requirements of the established market

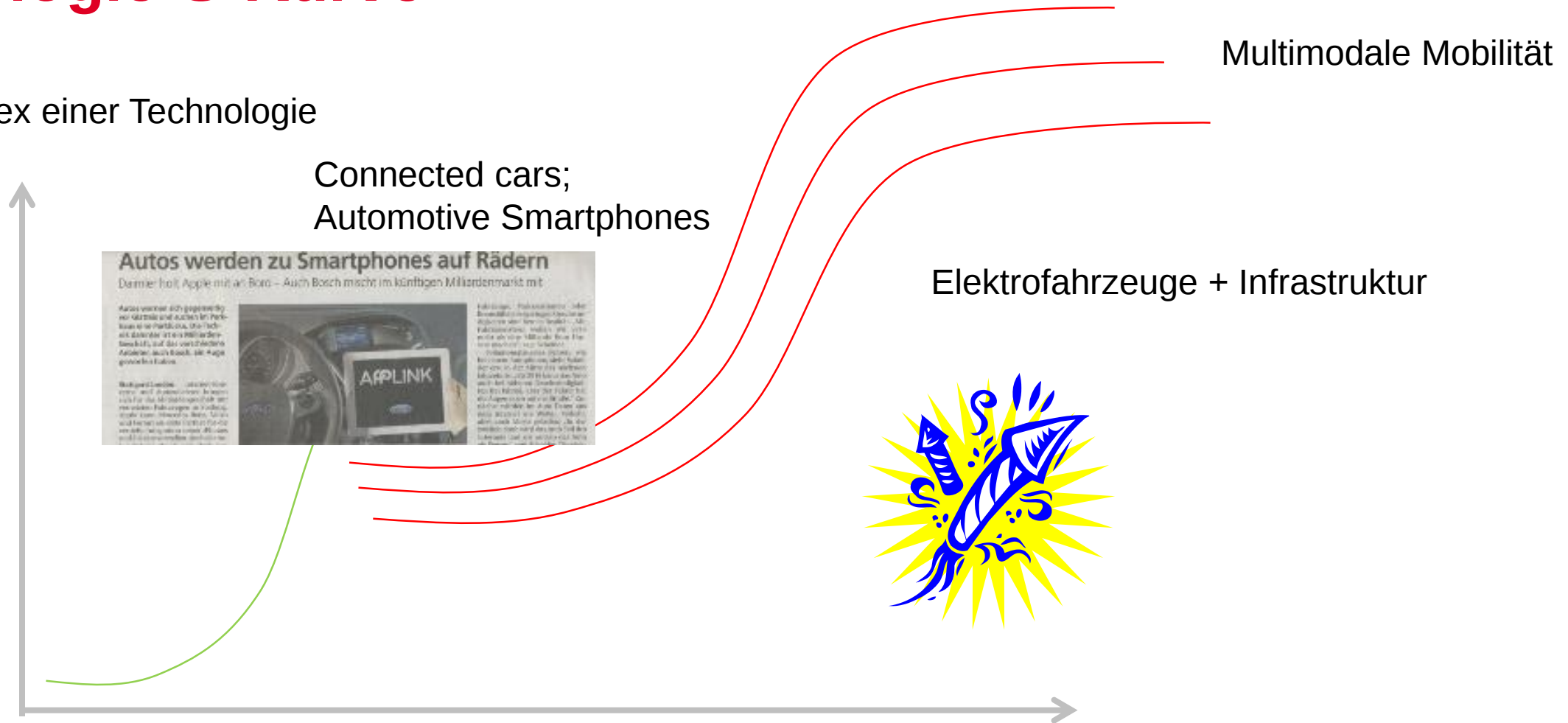
Performance of hydraulic technology reaches the established market requirements

Requirements of the new small users market



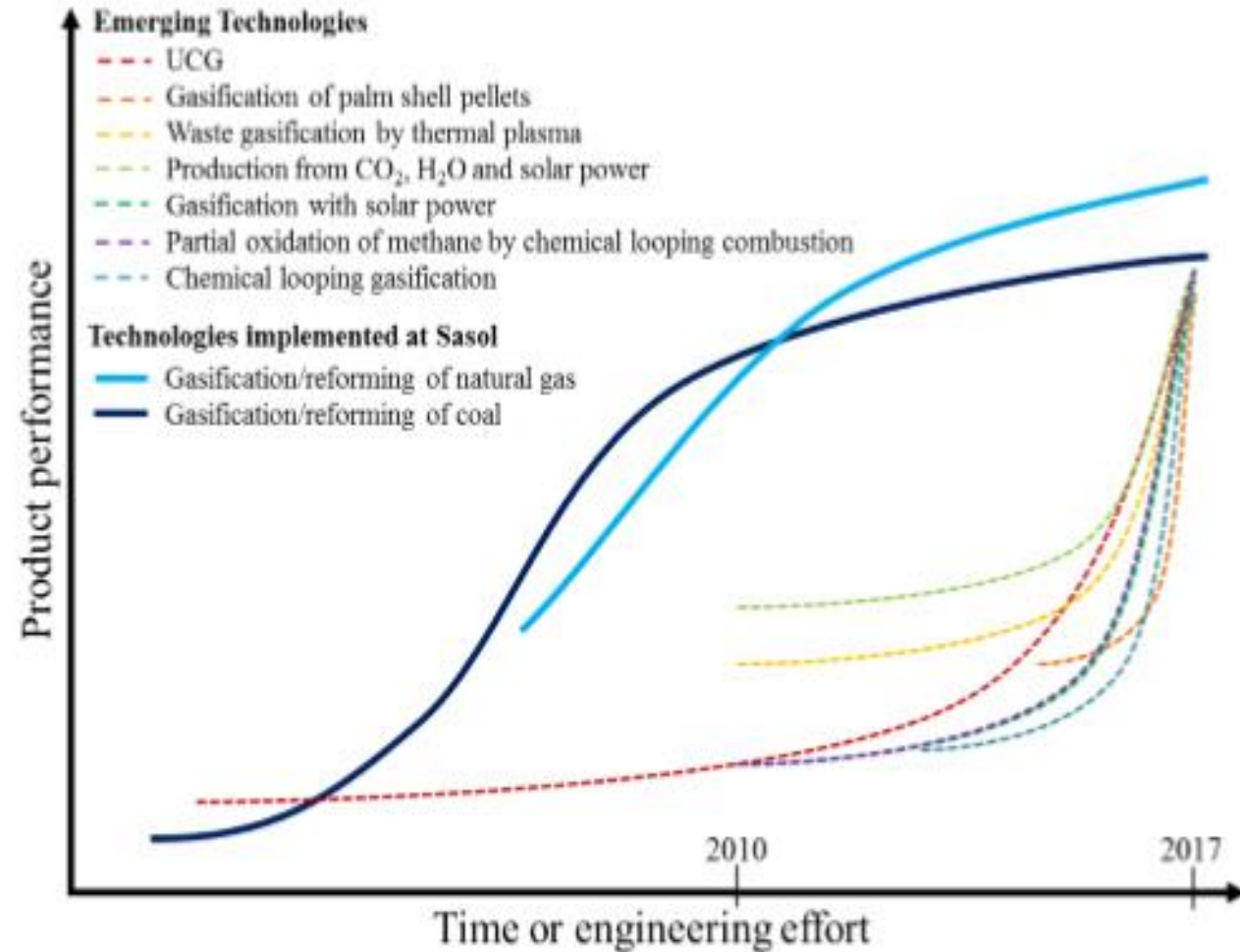
Technologie-S-Kurve

Leistungsindex einer Technologie



Technologie-S-Kurve Anwendung

- Technologie zur Syngasproduktion der Firma Sasol





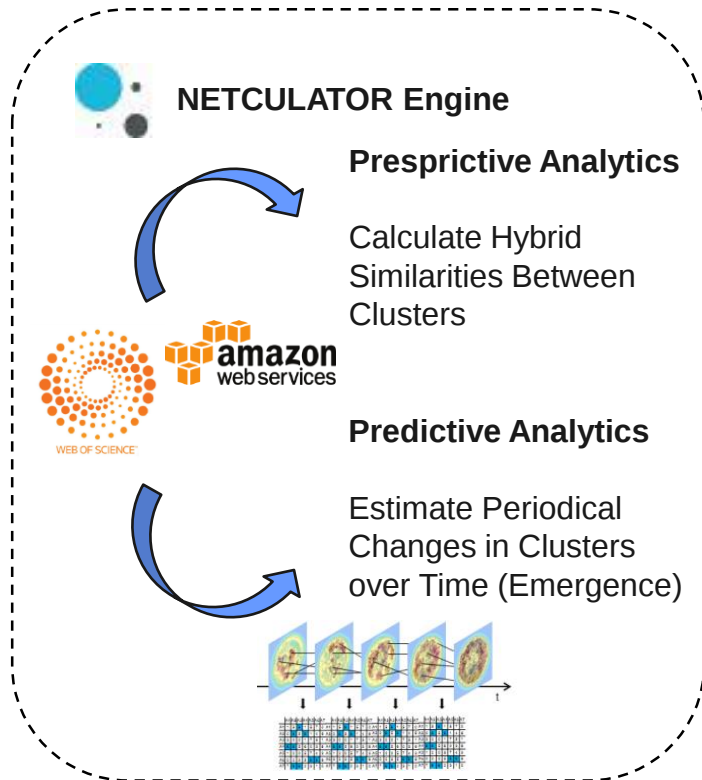
ALPORA

Your Investment Advisor on Innovation

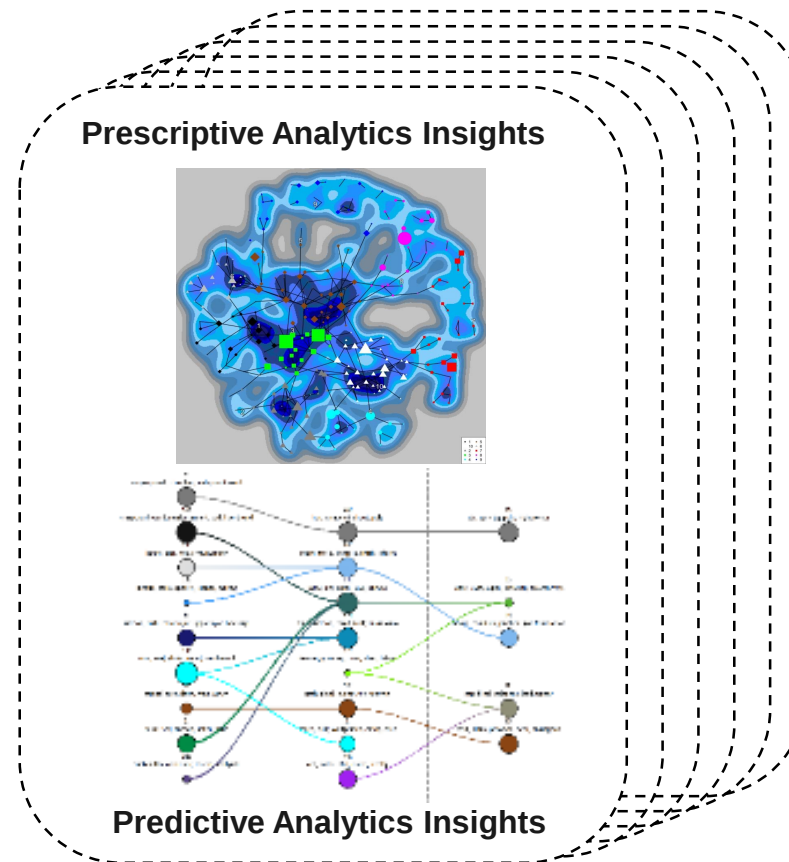
Mit Big Data Analytics zu **Innovation**

Analytics für Wiss Publ und Patente

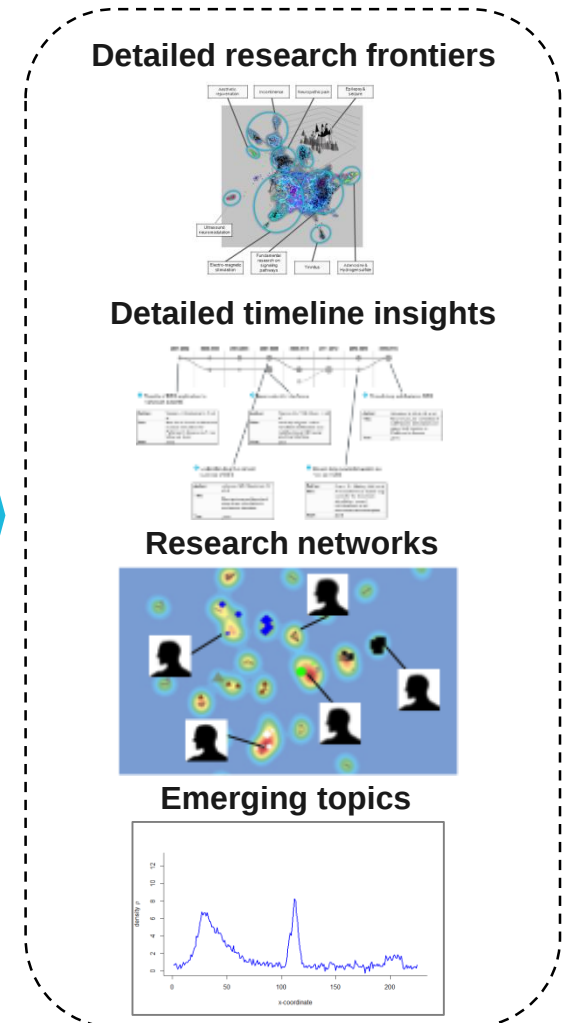
Data extraction, preparation,
and selection



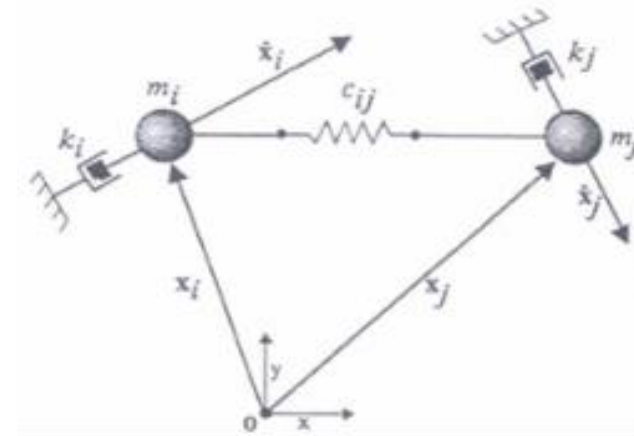
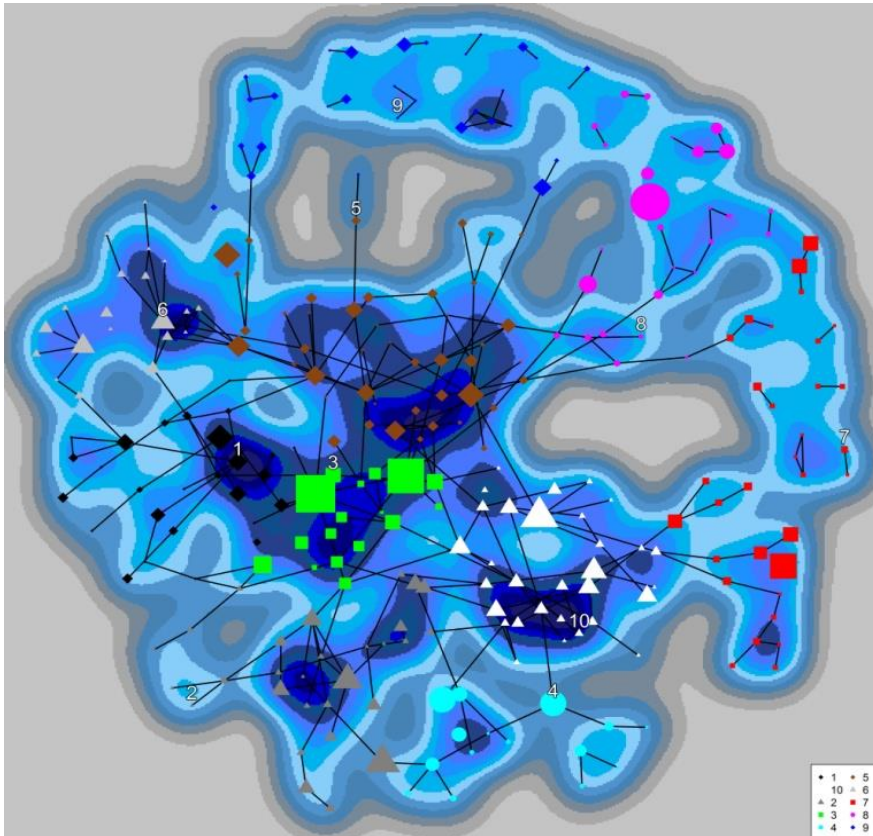
1-5 Iterations



Results



Modell



Kräftegleichgewicht

$$\begin{aligned} \vec{f}_{m_i} + \vec{f}_{k_i} + \vec{f}_{e_{ij}} &= 0 & -m_i \cdot \ddot{x}_i - k_i \cdot \dot{x}_i + e_{ij} \cdot \Delta \vec{x}_{ij} &= 0 \\ \vec{f}_{m_j} + \vec{f}_{k_j} + \vec{f}_{e_{ij}} &= 0 & \text{or} & -m_j \cdot \ddot{x}_j - k_j \cdot \dot{x}_j + e_{ij} \cdot \Delta \vec{x}_{ij} &= 0 \end{aligned}$$

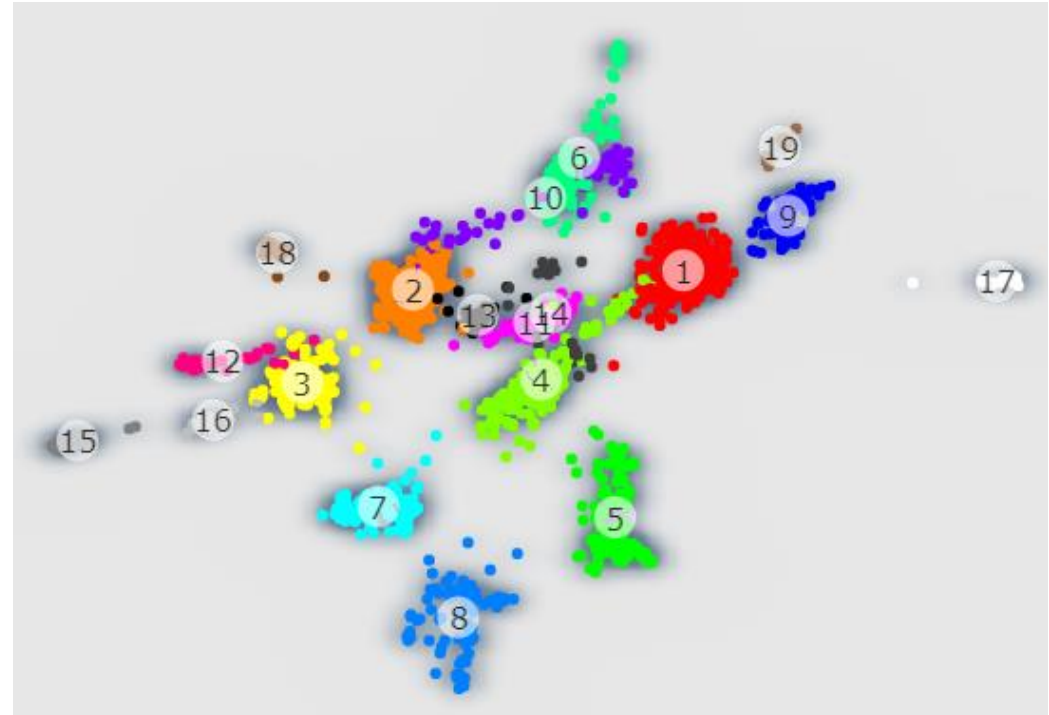
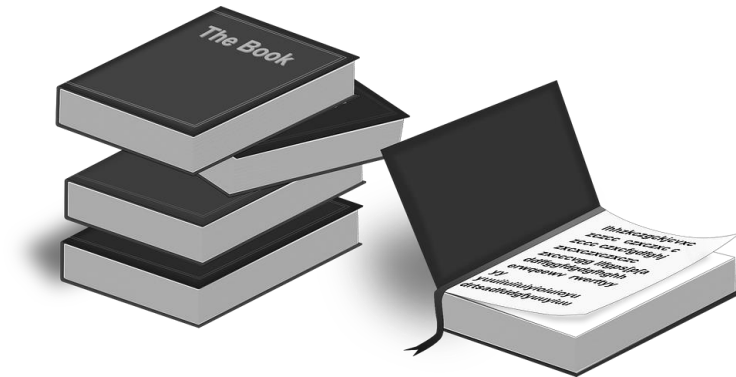
Iterationsgleichungen

$$\begin{aligned} x_1^{(t+1)} &= x_1^{(t)} + \frac{\Delta t}{k_1} \cdot \sum_{j \neq 1} e_{1j} \cdot \cos \alpha_{1j} \cdot |\Delta \vec{x}_{1j}| \\ x_2^{(t+1)} &= x_2^{(t)} + \frac{\Delta t}{k_2} \cdot \sum_{j \neq 2} e_{2j} \cdot \cos \alpha_{2j} \cdot |\Delta \vec{x}_{2j}| \\ &\vdots \\ x_n^{(t+1)} &= x_n^{(t)} + \frac{\Delta t}{k_n} \cdot \sum_{j \neq n} e_{nj} \cdot \cos \alpha_{nj} \cdot |\Delta \vec{x}_{nj}| \end{aligned}$$

Quelle: Schiebel, AIT, 2010

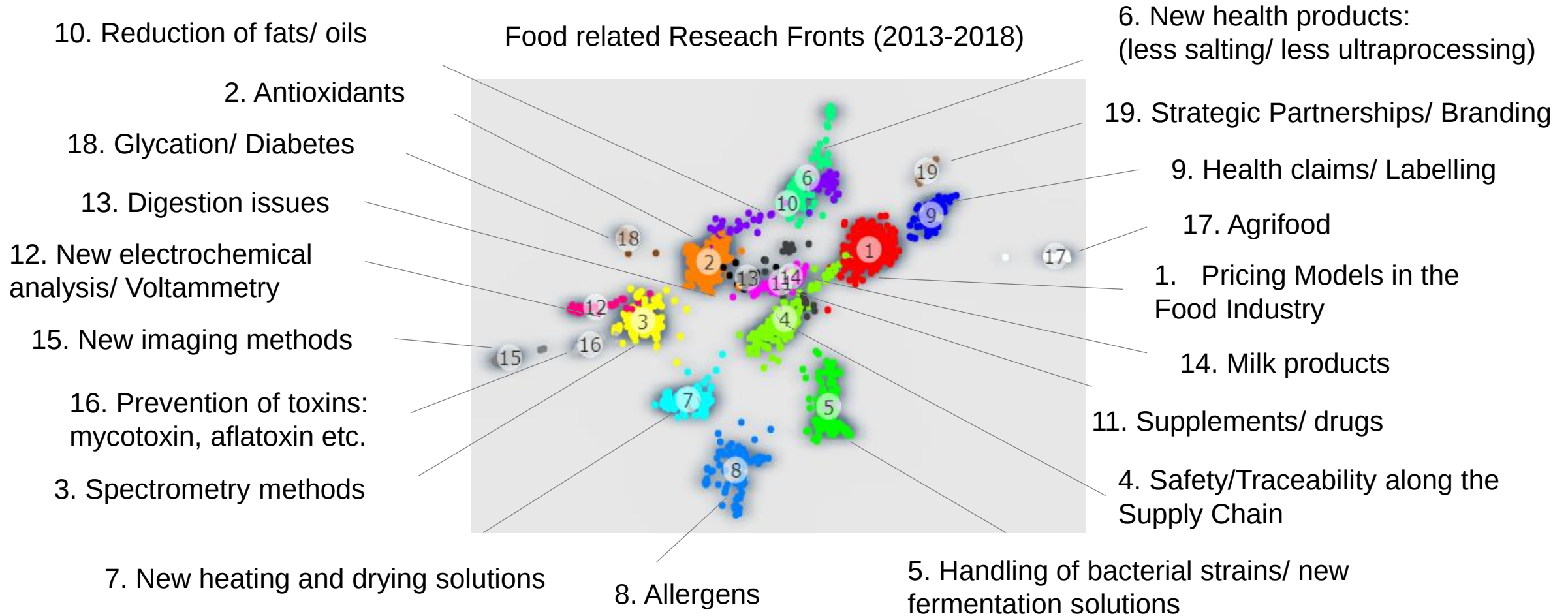
Anwendung

Identification of 25'711
scientific publications
concerning "Food"

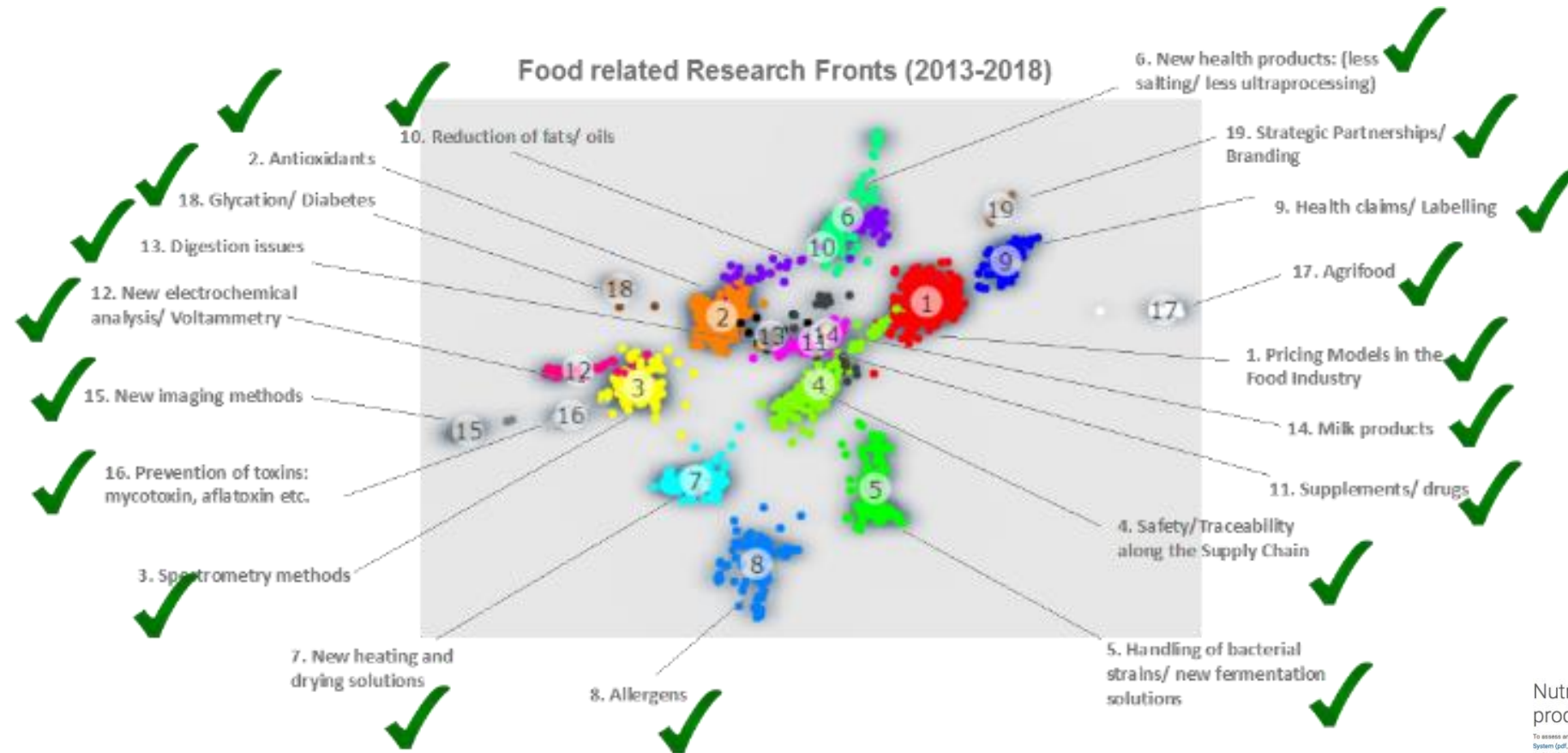


Food related Research Fronts (2013-2018)

Big Data Analytics: Innovation in Food



Big Data Analytics: Innovation in Food



Nutritional profile of our products

To assess and improve the nutritional value of our products, we use the Nestlé Nutritional Profiling System (pdf, 882 KB) (1), which is based on dietary intake recommendations issued by authorities such as the World Health Organization.



Nestlé's F&E-Portfolio with related research fronts

ALPORA

Your Investment Advisor on Innovation

Besten Dank für Ihre **Aufmerksamkeit**

*Leo Brecht,
Prof.Dr.rer.nat.
Partner*

*ALPORA
Gartenstrasse 4
6304 Zug
Switzerland*

***www.alpora.com**
eMail: leo.brecht@alpora.com*