Open Data –
status quo, potential and challenges

Dr. Frank Termer

Berlin, September 27, 2017

bitkom

What you can expect today!

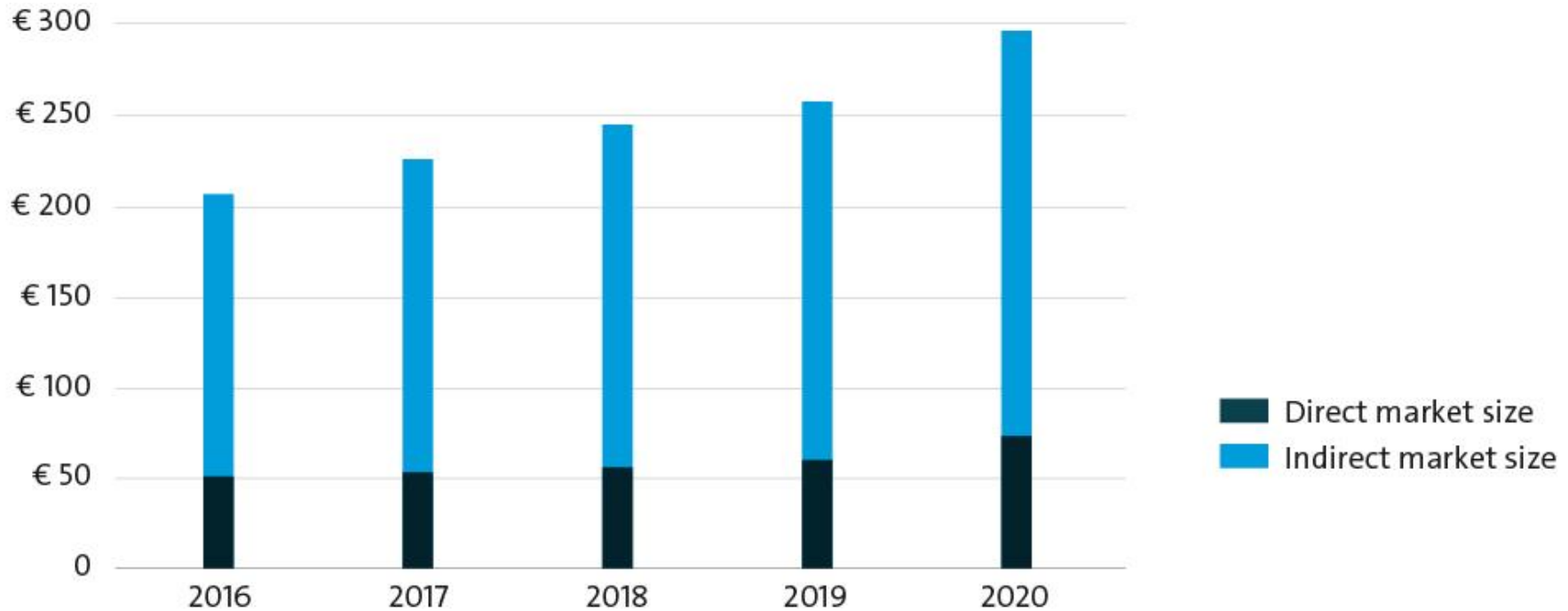**Dr. Frank Termer**
Head of Software

Bitkom e.V.

Albrechtstraße 10
10117 Berlin

E f.termer@bitkom.org
T 030 275 76 232
@Bitkom_Software

- What are we talking about?

- From ad-hoc value chains to API-based software ecosystems.

- What is already done with OpenData today?

- Opportunities and risks with OpenData as a "prosumer".

- Central statements of the Open Data Manifesto.

bitkom

Economic potential of Open Data
Total Market Size Open Data EU28+

Legend:
- Direct market size
- Indirect market size

Chart y-axis: € 300, € 250, € 200, € 150, € 100, € 50, 0
Chart x-axis: 2016, 2017, 2018, 2019, 2020

Scope of the direct and indirect market in € bn of Open Data as a business model basis (European Data Portal 2015)
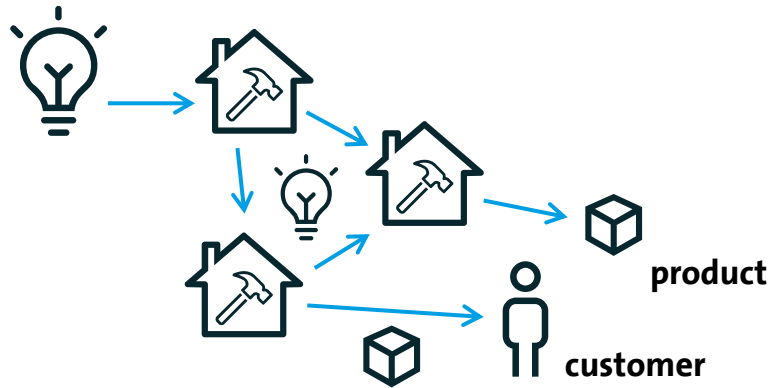
bitkom

Open Data – Try a definition

- Open Data is data that can be freely used, modiefied and shared by anyone – the only restriction is the obligation to name the author
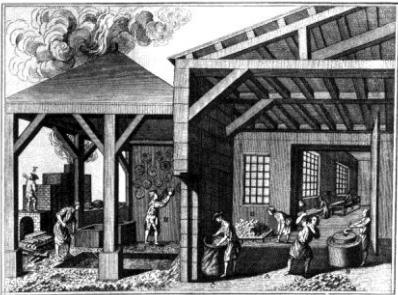
- Open Data is
  - machine readable data
  - with open licence
  - without fees
  - mixing an sharing is allowed
  - can also commercially used

bitkom

Industrialisation in 5 steps (1/5)

product

customer

manufactory

Sächsische Porzellanmanufaktur
im 17. Jh.

From ad-hoc value chains to manufactories

- Before:
  - Distributed producers of different / Intermediate products
  - Different interfaces, changing qualities, changing products
  - Difficult control

- After:
  - Summary of different crafts to a workhouse with a common goal setting
  - Modularization and specialization of the "individual" disciplines to defined interfaces
  - Stable quality of a product

Quelle: https://de.wikipedia.org/wiki/Manufaktur#/media/File:Saechsische_Porzellanmanufaktur.jpg

bitkom

Industrialisation in 5 steps (2/5)

manufactory
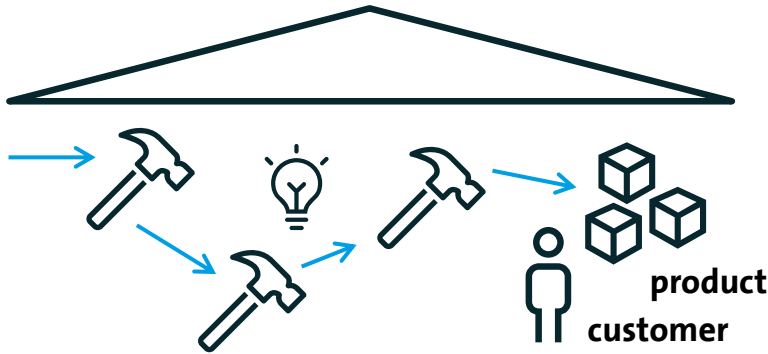
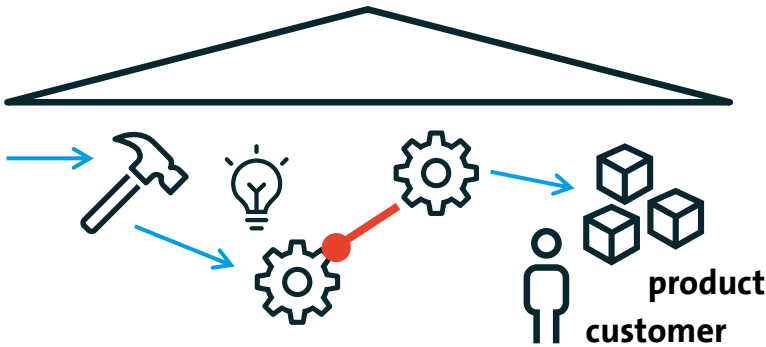

product
customer

factory

Montagefabrik Bell Aircraft (1940er)

From manufactory to factory

- Before:
  - Primary manual production activities
  - "Social" interfaces inside
  - No clear separation between "living" and "working"
  - End quality focus with plenty of compensation clearance inside
  - Nearly no investment needed

- After:
  - High automation. "Formal interfaces" inside
  - High presence obligation during work
  - End and intermediate quality focus (quality goals)
  - Increasingly important: high investment

bitkom

Industrialisation in 5 steps (3/5)
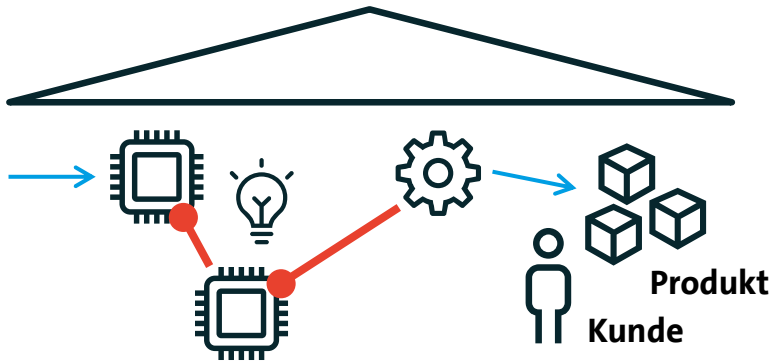
product
customer

Workplace with data collection, 1987

From the factory to the IT-using company

- Before:
  - High personnel expenses
  - Hardly any productivity gains are possible
  - High value creation depth in your own company

- After:
  - Use of IT as business support
  - No customer transparency to the outside
  - Efficiency increase for the product produced
  - Increasing external expertise in the form of IT products

Quelle: http://www.robotron-computermuseum.efb-1.de/pc1715%20Arbeitsmedizin.jpg

bitkom

Industrialisation in 5 steps (4/5)

IT-using company

Produkt
Kunde

companies as parts of a software ecosystem


modern IT-workplace, today

From IT-using company to companies as part of a software ecosystem

- Before:
  - Low networking of IT
  - Complex administration for? Purchased parts
  - Severe innovation

- After:
  - Core competency focus
  - Black box view of ingredients (XaaS)
  - High innovative capacity
  - Continuous modular improvement
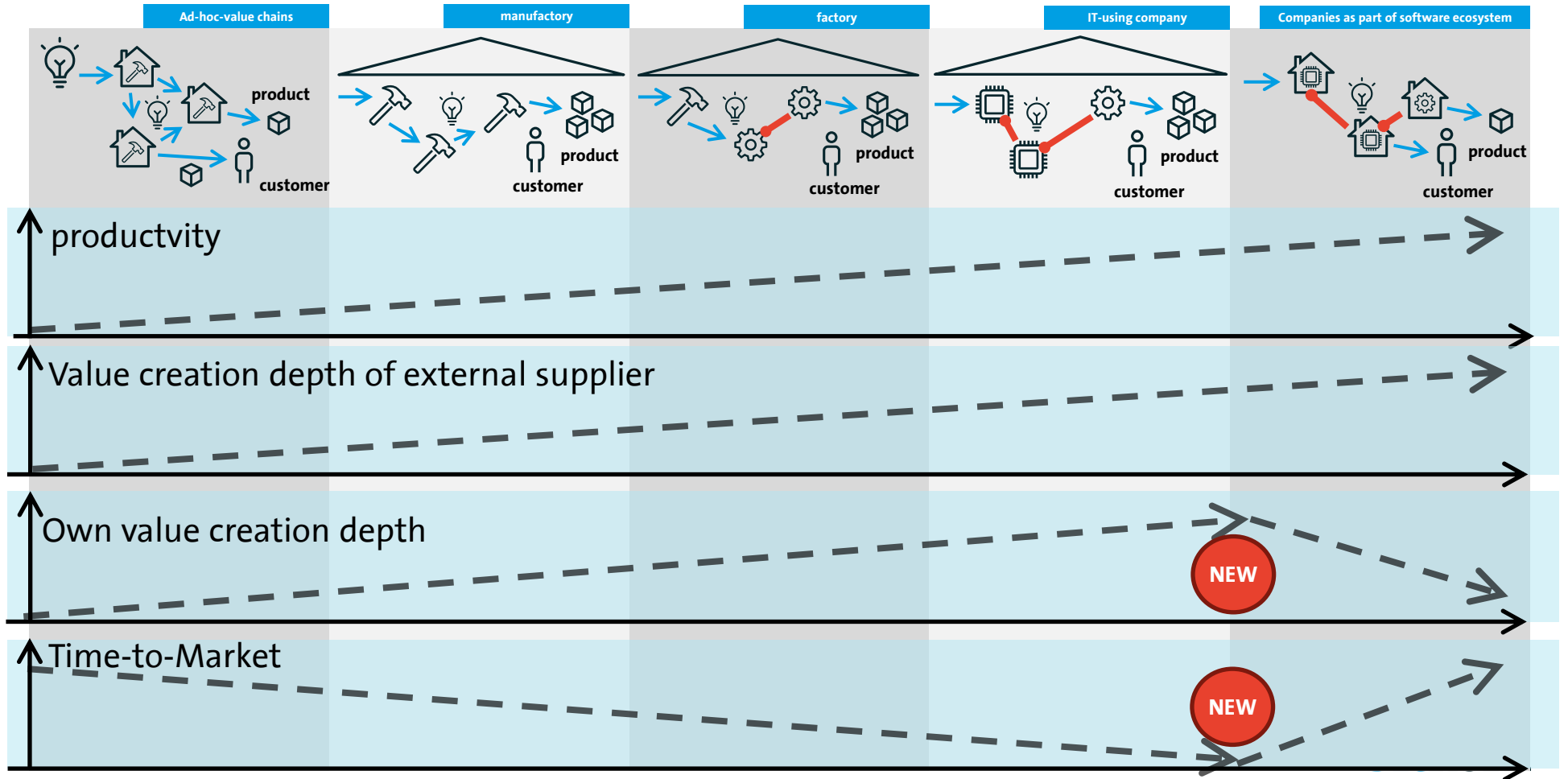
bitkom

Industrialisation in 5 steps (5/5)

companies as parts of a software ecosystem

product

customer
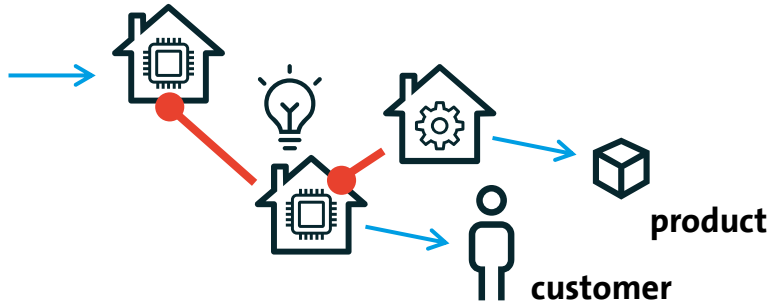
Develop new markets with software ecosystems

- Opening up internal IT
  - for additional sales markets
  - for intermediates
- Provision of interfaces to participate in other software ecosystems (Community)
- IT harmonisation through the break-up? The view of "inside" and "outside": everything? Is inside and outside at the same time

bitkom

The 5 stages of industrialization towards software ecosystems

| Ad-hoc-value chains | manufactory | factory | IT-using company | Companies as part of software ecosystem |

Definition: API-based software ecosystems

- *API-based software ecosystems* consist of lightweight interfaces as well as a global technology stack which makes them easy to use.

  - The *consumer* can use the sophisticated interface orchestration effectively for their own value creation in order to efficiently implement their own market advantages.

  - The *provider* can offer existing and new (intermediate) products to existing and new customers efficiently via the platform.

  A participant in the API-based software ecosystem usually appears as a *prosumer*.

bitkom

Open Data – two important roles

Data Provider
supplies data
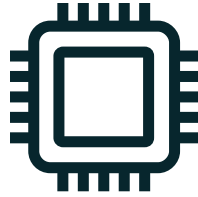
Data Consumer
uses data

bitkom

Open Data with practical examples

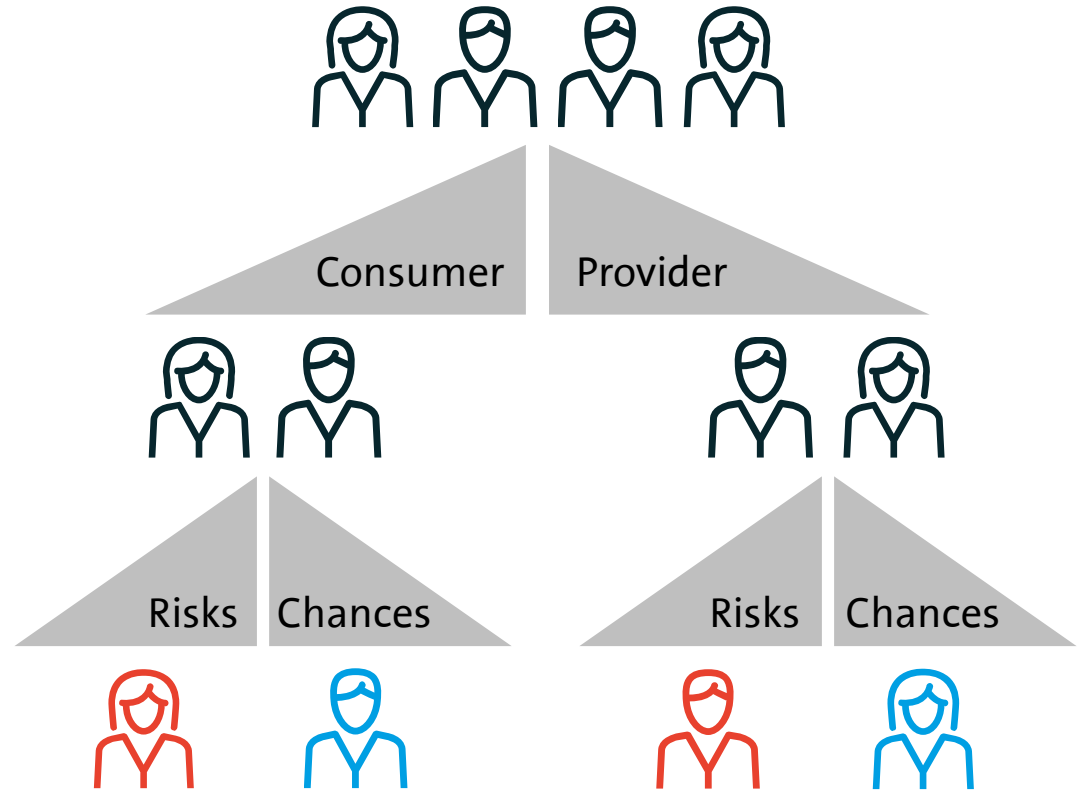agriculture

health

logistics

bitkom

A field experiment:
Workshop „Requirements of the industries for Open Data"

- Open Data Role
  - Consumer
  - Provider

- any Open Data application
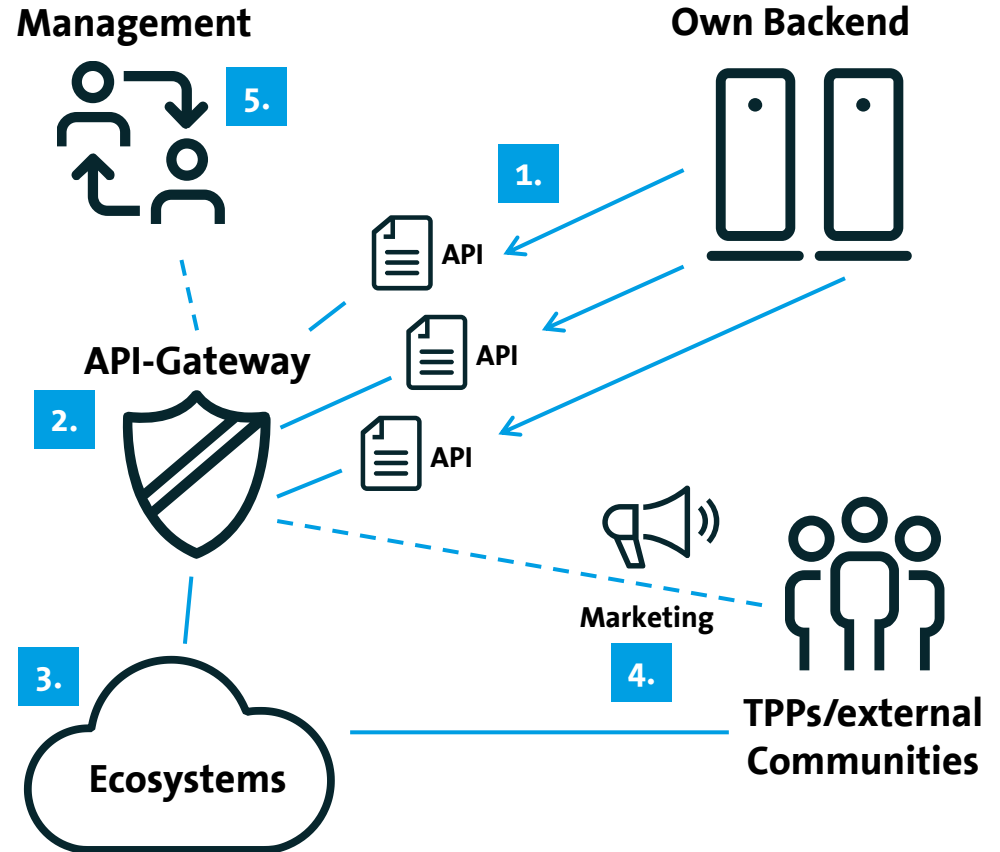 - knows chances
  - knows risks

Consumer Provider

Risks Chances Risks Chances

bitkom

Results of the Workshop

	Chances	Risiks
Consumer	Companies: ▪ Increasing productivity, process optimization, refinement possibilities Consumer: ▪ Participation, new benefits both: ▪ relationships	▪ Quality of the data ▪ Liability ▪ Stability (Highness, Offer) ▪ Durable cost-freeness not secured ▪ Service Level Coverage
Provider	▪ Innovation ▪ Collaboration and cooperation x2x ▪ Increasing efficiency, process optimization ▪ Increasing data quality, internal data availability ▪ image gain ▪ Recruiting	▪ transparency ▪ Technical foundations, security ▪ Cost / benefit ▪ expectations ▪ Know-how ▪ disclosure ▪ data sovereignty ▪ liability

bitkom

In 5 steps to API-Provider and -Consumer

1. strategy setting
   - Positioning in industrialization context
   - Business modeling
   - Change Management Planning

2. Technical Drawing
   - Additional infrastructure
   - Adaptation of existing infrastructure
   - Secure, cross-company communication

3. API-fication
   - Outward: Definition of services
   - Inside: implementation and integration
   - Proof protection

Management

Own Backend

5.

1.

API

API-Gateway

2.

API

API

Marketing

3.

Ecosystems

4.

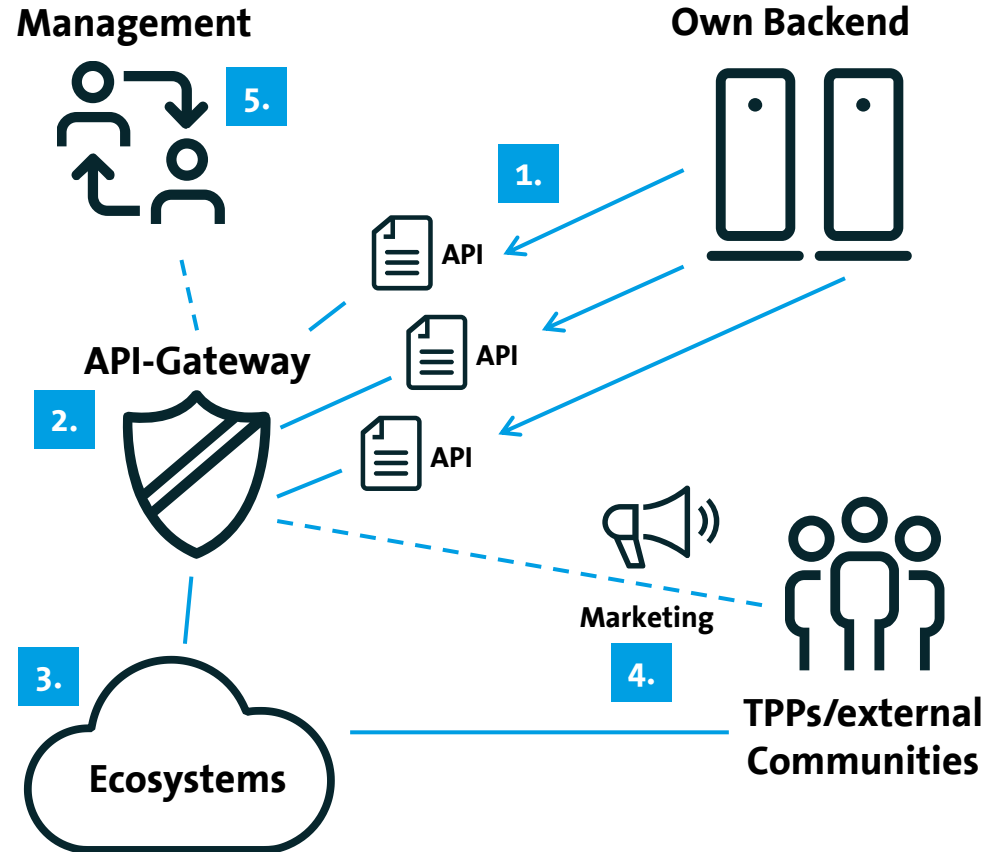**TPPs/external Communities**

bitkom

In 5 steps to API-Provider and -Consumer

4. Marketing
   - To the outside: For product catalog
   - According to halbauen: For developers and third parties
   - Inside: for support and community

5. Management
   - Monitoring the use
   - Control and adjustments
   - Review of strategy

Management

Own Backend

5.

1.

API

API-Gateway

2.

API

API

3.

Marketing

4.

Ecosystems

TPPs/external Communities

bitkom

One API, two roles, many benefits

7 benefits as a provider

1. Additional sales markets
2. Additional customer
3. Additional (intermediate) products
4. Utilization of external communities
5. Technology Leader
6. Internal reuse
7. Higher brand penetration

7 benefits as a customer

1. Core competency focus
2. "Best-of-Breed" Orchestration
3. Shorter time-to-market
4. "Hire & Fire" from APIs
5. API Competition
6. Easy SLA management
7. Technology Leader

bitkom

Central statements of the Open Data Manifesto

Open Data

- … creates **interest** and **trust**

- … accelerates **modernization** and **innovation**

- … creates space for **value-added services** for all

- … can be realized **safely** and **effectively**

- … **democratizes data integrity** for open ecosystems

www.bitkom.org/opendata

bitkom

contact

Bitkom e.V.

Albrechtstraße 10
10117 Berlin

T 030 275 76 0
F 030 275 76 400

@bitkom_Software

bitkom@bitkom.org
www.bitkom.org

Dr. Frank Termer
Head of Software

E f.termer@bitkom.org
T 030 275 76 232

bitkom

Open Data –
status quo, potential and challenges

Dr. Frank Termer

Berlin, September 27, 2017

bitkom