

# How does the Financialization of Firms affect the Course of Digitalization?

Conceptual Consideration and Provisional Empirical Insights

Contribution to SASE 2020  
Network „Digital Economy“  
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## What I want to talk about:

- Digitalization as a rationalized myth and a technology promise
- How does the capital market assess digitalization and which consequences does this have?
- Empirical illustrations
  - Siemens AG: The renunciation from an industrial conglomerate and the development to a focused digital TechFirm – motives, causes and risks of a strategic redirection
  - Autonomous Driving as „Disruption“ und the preference for the challengers from the Tech-Industries. The end of the automotive industry as we know it?
- Conclusion

## The Topicality of a Romantic Poem

*“Sleeps a song in things abounding  
that keep dreaming to be heard:  
Earth'es tunes will start resounding  
if you find the magic word.”*

Joseph Freiherr von Eichendorff

## A modified Thomas-Theorem

*“If men define (future) situations as real,  
they are real in their consequences”*

**Digitalization/AI as a „magic word“ („Zauberwort“)  
And a reified definition of future states of the world  
.... at least currently and from time to time**

## Example 1: AI as the always appropriate and advised solution

According to a Deloitte Survey about AI adoption among German firms many of the respondents answered that they were not clear which problems they could solve with AI more easily.

**„In short: who wants to use AI needs a goal. But how to find?“**

asks Hagen Rickmann, managing director of Telekom business clients, and promises customers to provide them with appropriate goals (HB, 14.10.2019).

## Example 2: AI as a promising, status-enhancing feature of a new consumer product



**What is this?**

**L'Oréal's Perso - AI inside**

2020 Las Vegas CES: L'Oréal today unveiled Perso, an **AI-powered at-home system** that represents the **ultimate in beauty personalization.**

## Provisional Impressions: Currently actors gain legitimation and support when resorting to digitalization

- Digitalization/AI serves as an adequate means for whatever ends, i.e. an absolute means
- Means-ends reversal: „The computer is a solution in search of problems“
- Managers/firms under pressure avoid to become questionable and vulnerable when resorting to a digitalization promise, irrespective of future delivery on the promise.
- Politicians may demonstrate to be on the right track when announcing digitalization projects and funding research and development
- Digitalization as a promise and fascination (utopia) as well as bedevilment and devastation (dystopia)
- Proponents and critics often share the belief in the potency and efficacy of digitalization/AI

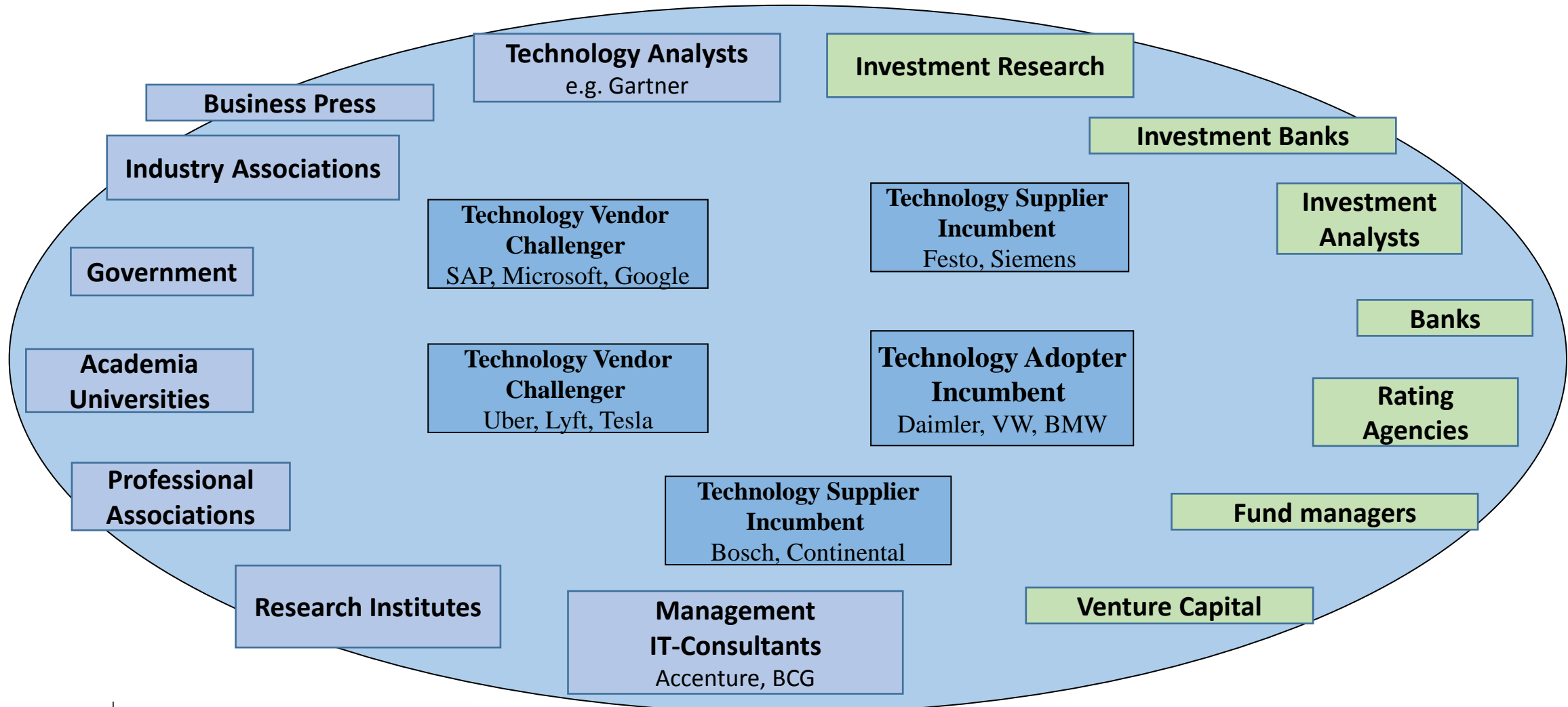
# Theoretical Background

## How to Enable Agency under the Conditions of Genuine Uncertainty

- **Concepts with more or less explicit reference to technology and/or innovation**
  - „Rationalized Myths“ (Meyer/Rowan 1977), Computermythos (Faust/Bahnmüller 1996)
  - „Organizing Visions“ for software development and usage (Swanson/Ramiller 1997)
  - Expectations in Technology Development (van Lente/Rip 1998, Borup et al. 2006)
  - Fictional expectations (regarding innovation, credit, investment) (Beckert 2016)
  - Theories of fields: Beckert 2010, McAdams/Fligstein 2012)
- **... and core commonalities**
  - Uncertainty as common starting point: How are still decisions possible?
  - Cultural orientation by collective expectations, rationalized myths, guiding principles, visions etc.
  - **„Imagined futures“ shape present decisions**
  - Orchestration of coalitions within and around organizations
  - Foster legitimation of and resource flows to organizations and actors
  - However, competing interests and ideas go along with „politics of expectations“: e.g., exaggerate benefits; only pretending conformity; facades of rationality; fraud
  - Different roles in fields: Incumbents and challengers, technology vendors and adopters, IT- and strategy consultants, technology and investment analysts, financiers, government (promotion, funding, regulation)

# Economic Fields – Firms, Funders and Knowledge Providers

## Technology and Finance interacting



## Different meaning attached to Digitalization over time

### Cyclical recurrence and alternative myths

- Digitalization/computerization on the one hand is a continuous process which (since decades) produces a digital infrastructure which may transform the economy, work and everyday life. Every new step in this process has to take into account the given conditions both as a resource and a burden.
- On the other hand digitalization/computerization from time to time is characterized by an innovative boost accompanied by exuberant expectations which may not or only partially be delivered ex post.
- We distinguish between phases in which digitalization/computerization is perceived and assessed differently
  - As **innovation** that mobilizes enthusiasm and support
  - Or as complex, vulnerable and costly but unavoidable infrastructure that has to be kept under control: **consolidation**.
- In consolidation phases other concepts/ideas may reach prominence (organizational and management structure, corporate culture; global value chains, etc.).



# How do Capital Markets Assess Technological Innovation/Firms?

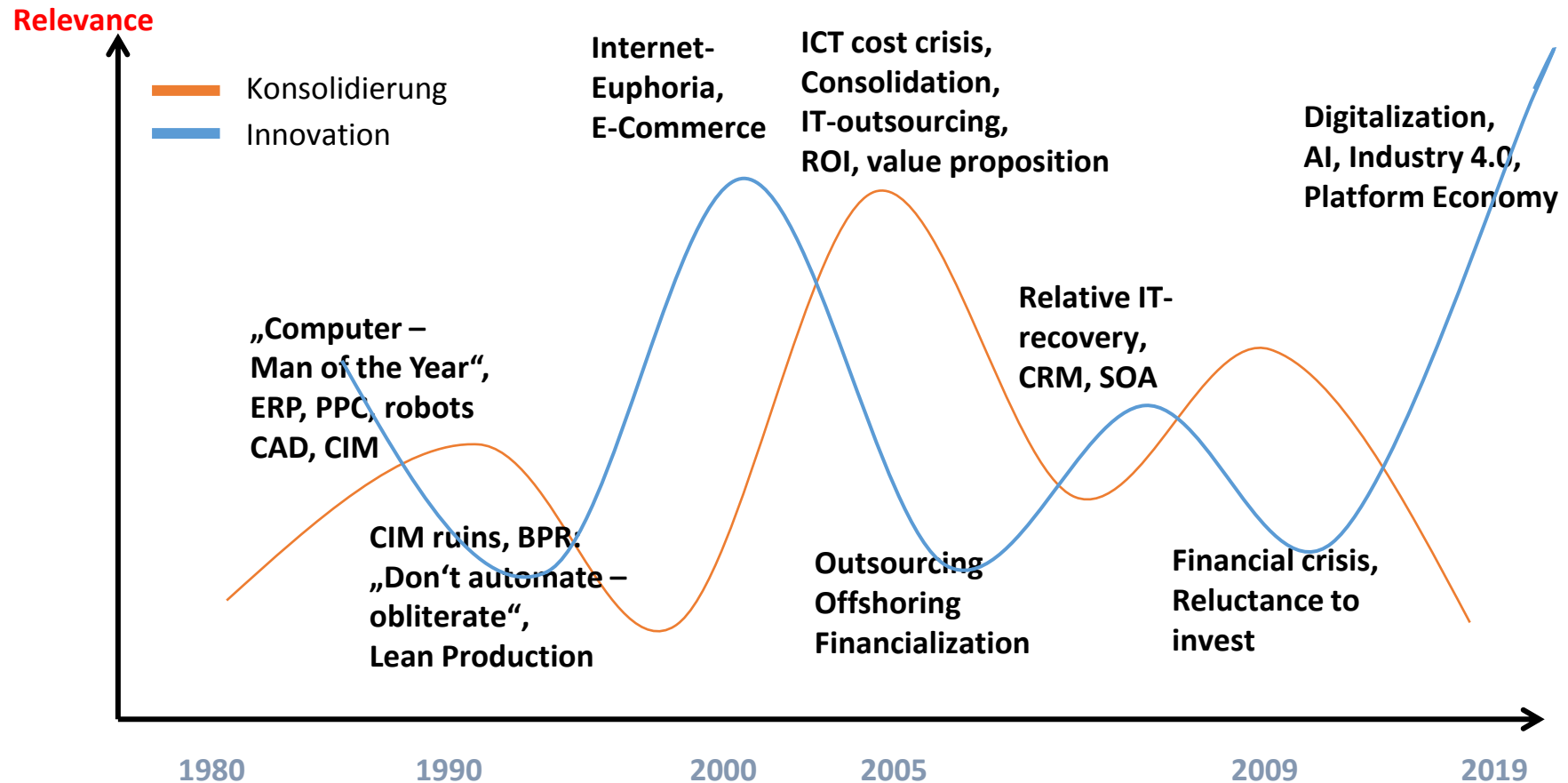
## Actors and Orientations

- **Fund managers and analysts**
  - „Fundamental“ assessment of future earnings potential: „firm in industry“, evaluation of chances and risks for profitability, growth and competitive position (e.g. risk of „disruption“).
    - Analysts as „Framemaker“ or „Frametakers“ (Beunza and Garud 2007)
    - Analysts maneuver between herd behavior (reflecting expectations of others) and offering „new ideas“ for investing
    - Competing ideas and assessments of firms and technologies: e.g., Amazon as a book retailer or as an Internet/Tech firm with higher growth rates and profit margins
    - Index funds: passiv, reinforcing trends
    - Activist hedge funds targeting firms in order to enforce focussing (conglomerate discount) based on current trends in valuation
- **Venture Capital** in search of „the next big thing“
- **Banks, Rating Agencies:** rather cautious, new technology as risk for incumbents

# How do Capital Markets Assess Technological Innovationen/Firms?

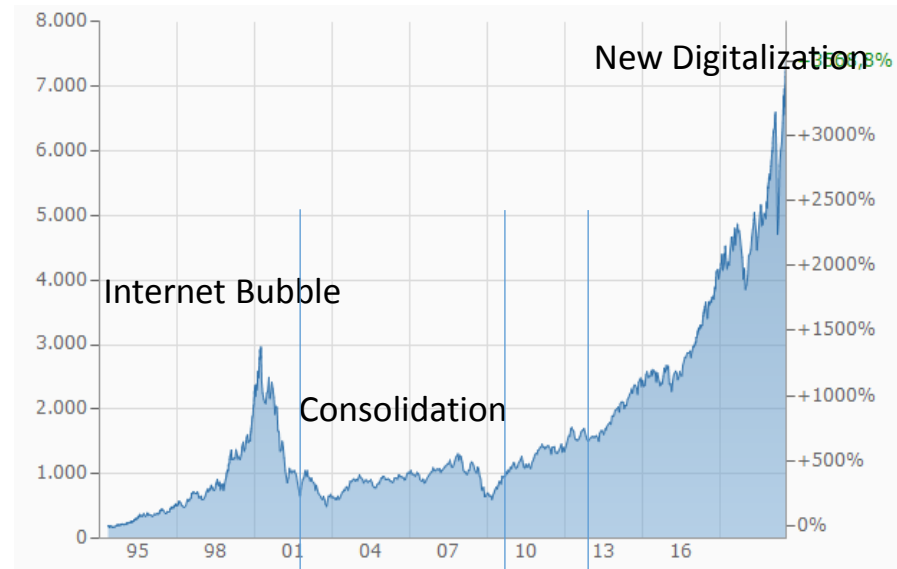
- Share problem of uncertainty and need for expectation building with technology developers and managers, however with less insight into the state of affairs (outsiders), therefore, prone to deliberate „expectation building“ by interested actors
- **„Imagined Futures“ shape present decisions likewise**
- Depend on valuation in the technological knowledge arenas
- Capital markets follow current evaluation trends or even reinforce them, no general reluctance to honour investment and innovation at the expense of short term profit; a strong imagination may lead to patience to bridge a longer period of losses (Amazon, Uber, Tesla)
  - **Phases of innovation driven growth:** new technology as a driver of growth; analysis relates to „grand narratives“ (e.g. Internet) or „industry narratives“ (Nano- or Biotechnology) (Froud et al. 2006); thereby they identify potential winners and losers
  - **Phases of economic downturn or exhaustion of previous technology promises:** reluctance to honour investment and innovation, priority on cost reduction, outsourcing and offshoring; ICT now perceived as a complex, costly infrastructure that has to be consolidated; new IT projects have to prove value contribution.

# Digitalization - Phases of Thematization and Significance and the Rise of Alternative Myths – a tentative classification

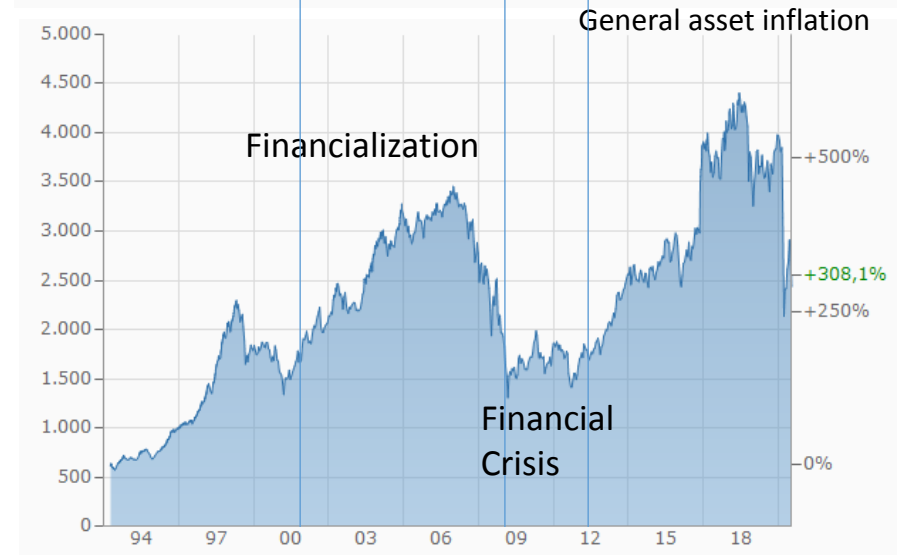


# Significance of Different Digitalization Phases on Stock Exchange

Nasdaq Computer Index



Nasdaq Banking Index



# How do Capital Markets Assess Technological Innovationen/Firms?

- **Do capital market actors rely exclusively on given trends? Specifics of evaluation and influencing**
- **Preference for focused corporations and conglomerate discount (Zuckerman 2000). Institutional investors („principals“) claim to do portfolio diversification on their own, not management („Agent“).**
  - e.g. Siemens as an industry conglomerate
- **Preference for/confidence in challengers, incumbents devalued (incumbent discount)**
  - e.g. digital photography (Bennet 2004)
- **Preference for tech companies assuming higher growth and profitability**
  - E.g. Amazon as an Internet company or a book store (Beunza and Garud 2007)
- **Appreciation of Shareholder Value Management/Value Based Management**
- **However, corporations differently vulnerable and prone to subdue to pressures due to capital market exposition (ownership structure)**
- **Potential effects of capital market evaluation and influence**
  - Conglomerate discount and focussing on Digitalization: Corporations faced with less support/activist campaigns or new risks and vulnerability to economic cycles
  - Collective belief in „autonomous driving“ favours tech companies and challengers (Uber, Tesla)

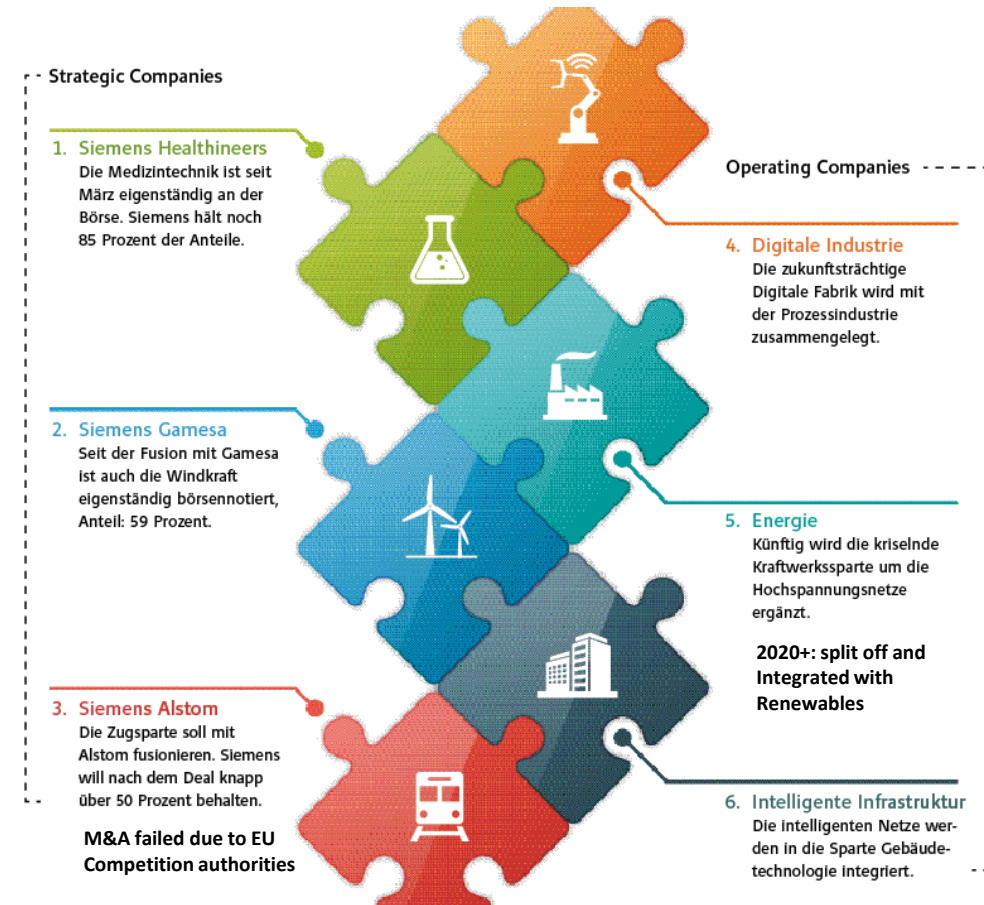
# Illustration I Siemens: Vision 2020+ Focus on Digitalization

## Obedience in advance awaiting pressure from activist hedgefonds

„Siemens is going to become a **digital companie** and breaks up the power station division. The new Siemens structure is supposed to assure the **,sustainability (,Zukunftsfähigkeit) of our business in the era of Industry 4.0.'** (...) Already in 2018 it has been announced to structure the remainig industry into three larger divisions. Now also „Gas and Power“ will be divested.“  
All-electronics.de 14.05.19

CEO Kaeser justified the focussing strategy by saying that Siemens had to do it on its own **before an activist hedge fund is forcing yourself to do so.** (Vision 2020+ announced Aug. 2018)

**Focussing: In the end only „Digital Industry“ and „Smart Infrastrucutre“ left**



**Structure according „Siemens 2020“**

# Siemens Share Price from 2000 to date

However, no positive Reaction to Focusing Announcement in 2018



- Siemens still perceived as an incumbent in a traditional „industry“ context?
- Siemens traditional industry divisions are highly digitalized (e.g. railroad systems; healthcare technology) but differently categorized at the stock market.

# Illustration I Siemens: Vision 2020+ Focus on Digitalization

## Critical Voices from the Business Press

- „a risky strategy to put all your eggs in one basket“
- „the national ikon is more attackable than since a decade ago“
- Synergies lost: „global sales organization destroyed“
- „The new prime business with digital factories already suffers from the weakness of manufacturing systems engineering and automotive industry“
- Meanwhile CEO Kaeser seems to recognize that he may have overstated the breakdown of the corporation and reintegrates the mobility division (failed M&A with Alstom)
- Back in 2011 former CEO Löscher had the vision for Siemens to serve the „megatrends“ „green city“, mobility, health care and renewable energy. Meanwhile everything has been shrunked to Digitalization and the „green city“ has become „smart“

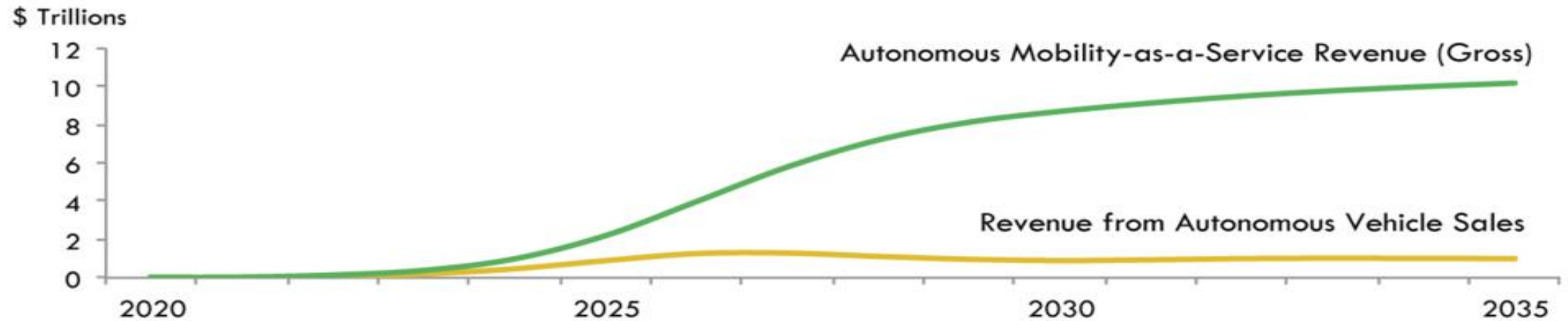


## Illustration II: Autonomous Mobility as „Disruption“ of the automotive market? A Capital Market Valuation

„ARK's research shows that the global **autonomous mobility-as-a-service (MaaS)** market will exceed \$10 trillion in gross revenue by the early 2030“ (ARK Investment Research 2017, 2).

„It is clear that the **market for autonomous driving is tremendous**. (...) Revenues from „Mobility-as-a-Service“ will soon exceed revenues from from the former business of selling cars“ (Der Aktionär).

FIGURE 6  
**Global Revenue For Autonomous Cars And Services**

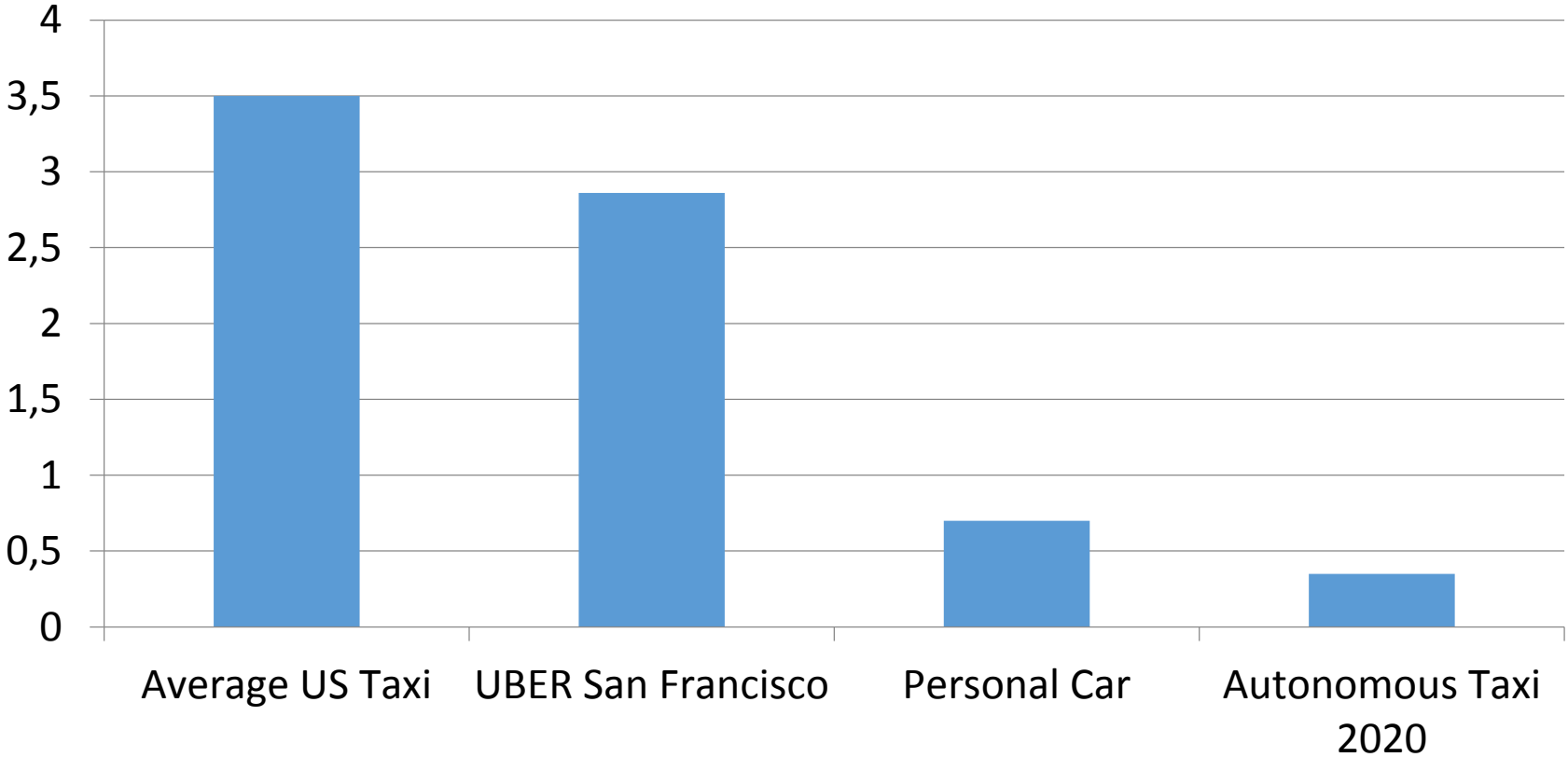


Source: ARK Investment Management LLC

# Illustration II: Autonomous Mobility as „Disruption“ of the automotive market? How could this be made possible? Bold assumptions

## All-In Cost per Mile for Vehicle Services (\$)

ARK Invest Research 2017

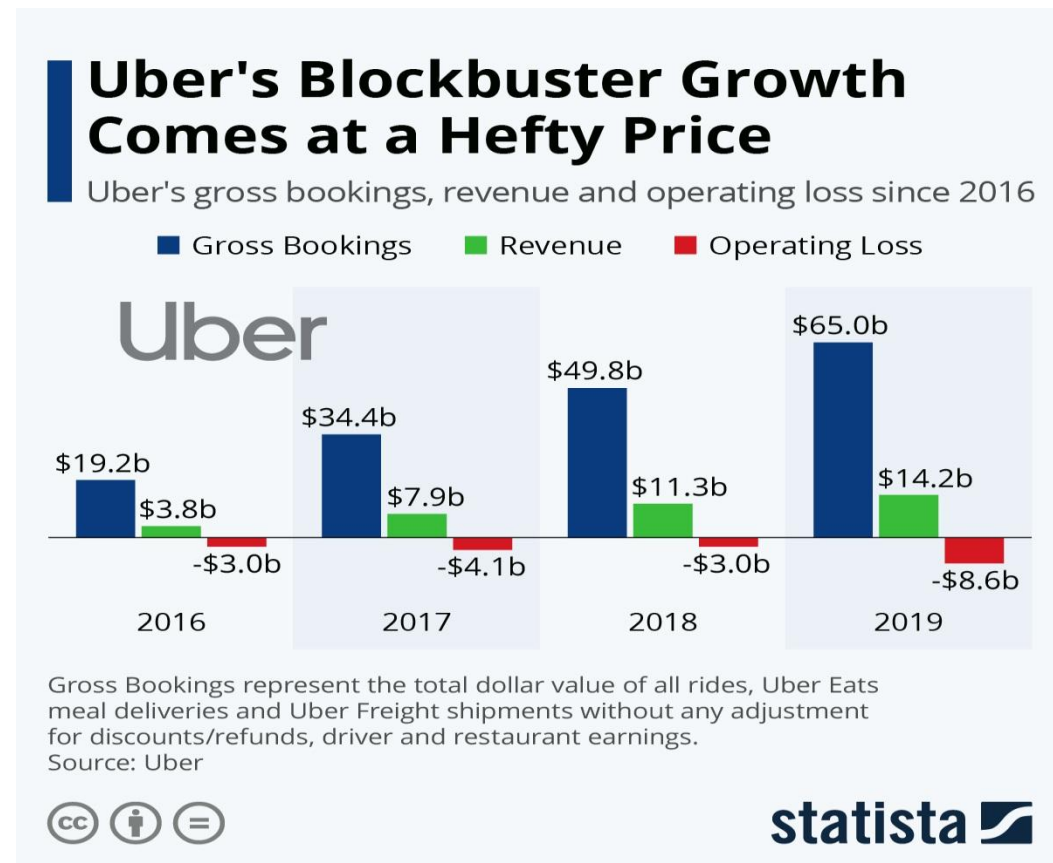


# The Uber Story - Promises and Hope

Uber announces in 2011 to be an “Advanced Technology” company not (just) a cab service provider

“The ATG and Other Technology Programs segment engages in the development and commercialization of autonomous vehicle and ridesharing technologies, as well as Uber Elevate (Shared Air Transportation). The company was formerly known as Ubercab, Inc. and changed its name to Uber Technologies, Inc. in February 2011.”

Market Cap up to 80b \$, more than GM, Ford or Daimler, collects 8b \$ by IPO in 2019, one of the largest IPOs ever



# „Why self-driving cars could change everything?”

## ... but only under very restrictive conditions

- Autonomous Taxi-Services are commercially available until 2019 and will be the dominant form of “Door-to-door-Mobility”
- Autonomous taxis will cost customers only 35 cents per mile because of the higher utilization rate
- Availability of autonomous cars shifts the market at the expense of the personal ownership of cars.
- Conclusion: The global market for autonomous mobility is **massive growth opportunity for technology-players** or automotive companies that are able to do the same.

Source: ARK Investment Research 2017: Mobility-As-A-Service. Why Self-Driving Cars could change everything

## ... others join the disruption vision

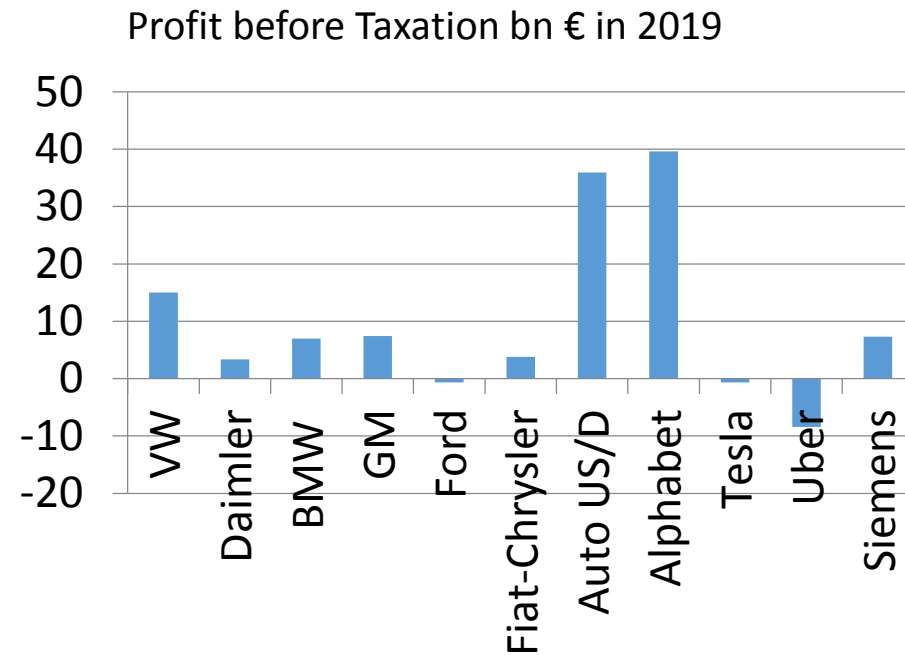
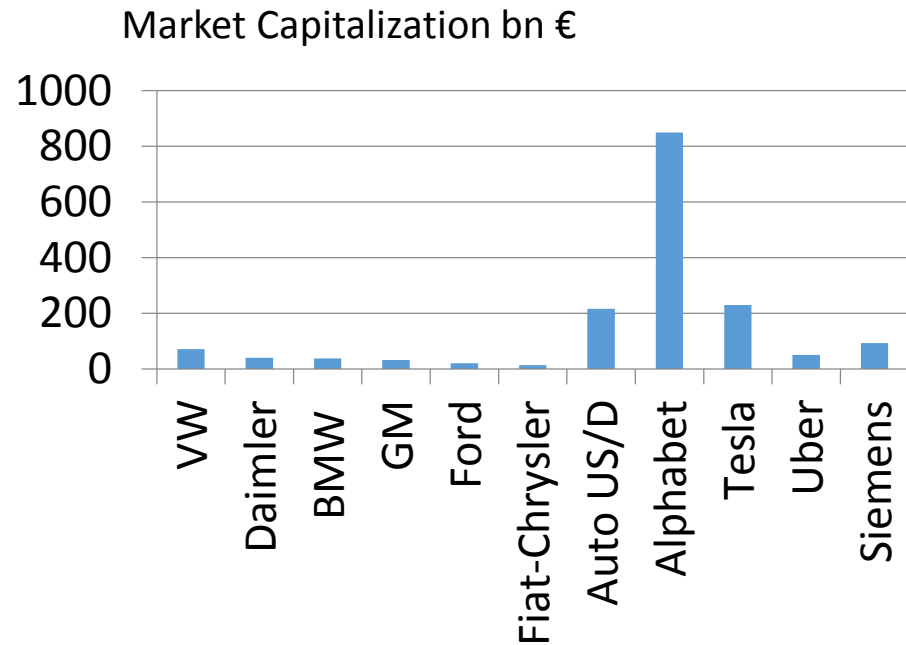
- Not only Uber but also Tesla: Elon Musk promises a market capitalization of 500 bn \$ because of autonomous driving; car owners lease their car as a “Robotaxi” via the Tesla network (Manager Magazin online, 06.09.2019).
- Boston Consulting Group sees the danger that incumbents will be downgraded to mere hardware suppliers by the challengers. Result: lower margins, product requirements
- Bernstein Research foresees “Disruption” at the expense of car producers and in favor of “new entrants” (Bernstein Research 2018\_ Blog\_ Reinventing Autos; April, 23, 2018)
- Daimler CEO: autonomous driving as a possible “game changer”.

## Autonomous Driving as a contested promise: some objections

- **Technological success** questionable: only Level 4 realizable and in circumscribed areas
- **Investment in infrastructure** questionable
- **Economic outcomes** questionable: does it pay off?
- **Social, institutional and cultural refusal or hurdles**
- Doubts about premium valuation of major challengers at the stock market

# Market Capitalization and Profits: Preference for Challengers and Tech Firms, Disadvantage for “Embedded Digitalization”

## Alphabet, Tesla and Uber in Comparison to US and German Automotive Industry Incumbents



**Uber:** Market Capitalization before IPO 100 bn \$, opening price 80 bn \$; capital inflow more than 8 bn \$

**Tesla:** high volatility, recent enormous increase partly due to short-squeeze

Source: finanzen.net, July 2020

## Conclusion

- Imagined futures matter for present decisions
- Challengers may be successful for quite some time not because they are able to fulfil their promises but because the collective beliefs in their capabilities are strong and effective on their own.
- Capital markets may make a difference
  - Reinforce trends in innovation and consolidation phases
  - Induce (too) strong focussing on one single field of innovation going along with increasing vulnerability
  - Disadvantages for „embedded digitalization“ and incumbents, especially conglomerates in favor of tech companies and challengers.
  - Increase in legitimation and resources (finance, market valuation, employer attractiveness)

# Thanks for Attention

## Further reading

Faust, Michael; Kädtler, Jürgen (2019): The (Not Entirely) Financialized Enterprise - A Conceptual Proposal. *Historical Social Research* 44 (2019) 1, 285-307. DOI: 10.12759/hsr.44.2019.1.285-307.

Faust, Michael (2017): A typology of shareholders and constellations of actors in the external coalition of the corporation. An exploration for the German case. Paper submitted to EGOS 2017, Copenhagen, July 6-8, 2017, Sub-theme 20: Financialization and its Societal Implications: Rethinking Corporate Governance and Shareholders.\*

Faust, Michael, Kädtler, Jürgen (2018): Die Finanzialisierung von Unternehmen. *KZfSS Kölner Zeitschrift für Soziologie und Sozialpsychologie*, 70(1) 167-194. DOI: 10.1007/s11577-018-0543-9.

Faust, Michael (2002): Consultancies as Actors in Knowledge Arenas: Evidence from Germany. In: Kipping, M.; Engwall, L. (eds.): *Management Consulting: Emergence and Dynamics of a Knowledge Industry*. Oxford (Oxford University Press). S. 146-163.

Faust, Michael; Bahn Müller, Reinhard (1996): Der Computer als rationalisierter Mythos. Vom Nutzen institutioneller Organisationstheorie für die Analyse industrieller Rationalisierung, *Soziale Welt* 2/96, S. 129-148.