

## Cooperation and Partnership as Driving Forces behind Innovation and Success in Digital Business in Germany



**German-Japanese Business Seminar: "Innovation Partnership in Digital Economy – Growth Opportunities in Düsseldorf and North Rhine-Westphalia"**

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- **Digitization as a Disruptive Technology**
- **Open Innovation Strategies in Disruptive Environments**
- **How to Re-Invent the Firm in the Light of Digitization – The Case of Axel Springer**
- **Summary**

## OLD World



## NEW World



## OLD World



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## OLD World



Mercedes-Benz

## NEW World



## Post-industrial revolution

**Medical equipment**  
Scanners and other devices communicate to improve treatment and minimise errors

**Power plants**  
Performance data can be analysed to identify and predict faults, and to maximise profitability based on market prices, weather conditions and other factors

**Mining**  
Trucks already collect large amounts of data, which can be analysed to identify when equipment is at risk of failure, reducing breakdowns and cutting maintenance costs

**Rail**  
Locomotives transmit data on their position, fuel use and other factors, and a constantly updated centralised traffic management system sends instructions to maximise speed and efficiency across the network

**Factories**  
Analysis of data on the performance of products in service can be used to improve the design and production of new models

**Aircraft engines**  
GE works with airlines on analysing engine performance data to identify opportunities to save fuel, and recommends changes including optimal flight paths and thrust settings

**Wind farms**  
Wind turbines are connected to a network, continuously reporting data about their performance and receiving instructions to improve efficiency. The system can boost output up to 20 per cent

**GE has left ...**  
Insurance  
Plastics  
TV and theme parks  
Most financial services

Jeff Immelt, chief executive of GE since 2001  
(Bloomberg)

**50bn**  
The number of connected 'things' there will be by 2020

**\$8.6tn**  
Value of the industrial internet by 2020, according to GE

”If you woke up as an industrial company today, you will wake up as a **software and analytics** company tomorrow.” (Jeff Immelt, CEO GE).

„A **radical** overhaul designed to transform the 123-year-old group into a **digital industrial** company. At its core is a drive to use advances in **sensors, communications and data analytics** to improve performance both for itself and its customers.“  
(FT, 13.1.2016)



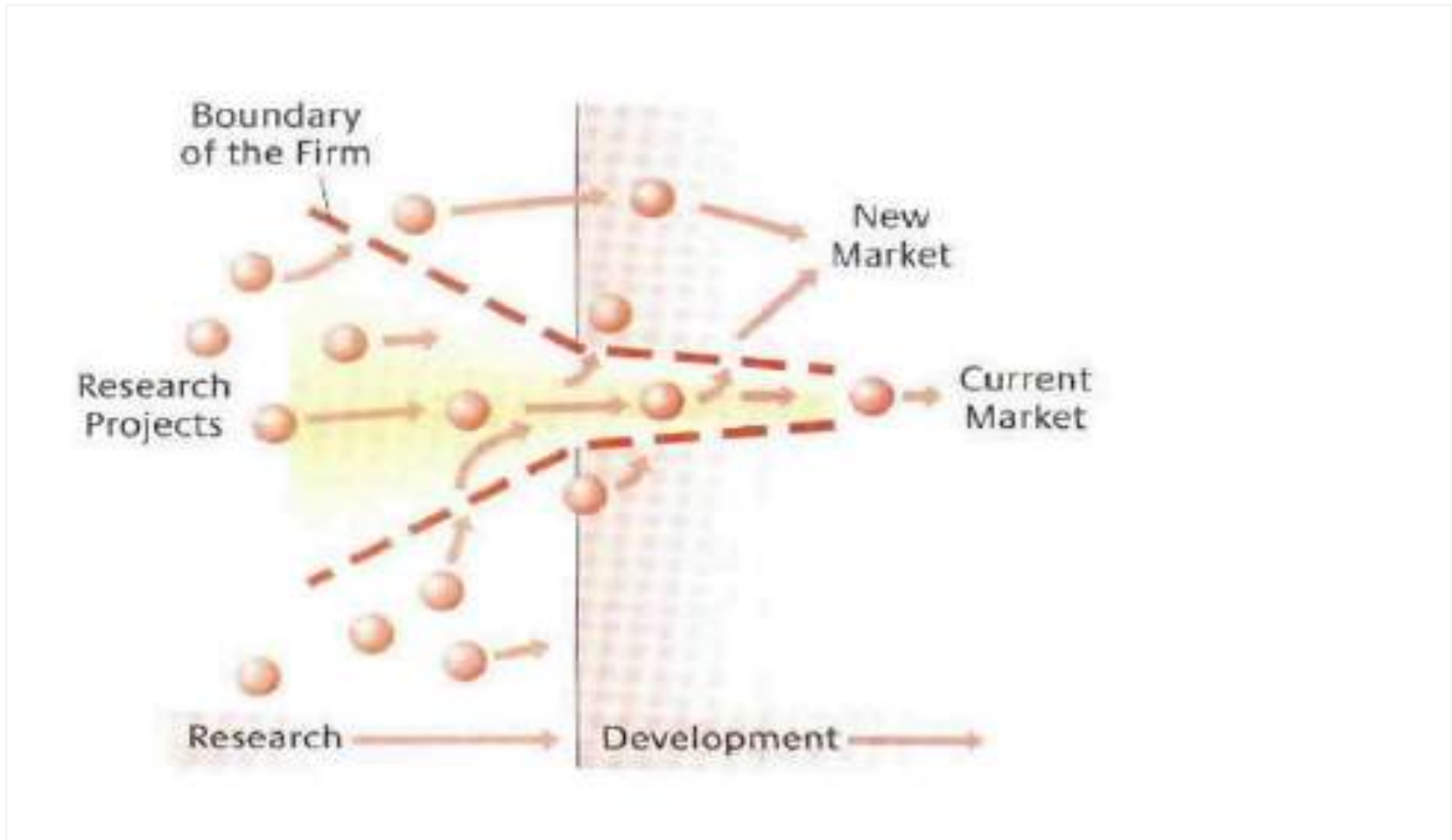
Digital farming: „We are seeing many opportunities in electronics and software that weren't available five years ago“ (L. Kriszun, CEO)

- 300 software engineers (most important employees out of 11.000)
- € 2m investment into satellite network to monitor and optimize farming
- Apps. for farmers to operate harvesting machines

<p><b>Explainer</b></p> <p><b>Digital machine revolution</b></p>	<p>The term Industrie 4.0 originated in Germany to describe the ambition to link factories to the digital revolution but has become globally recognised shorthand for tech upheavals in manufacturing.</p> <p>German industrial companies — many unfamiliar names — are quietly introducing ideas based on Industrie 4.0 concepts, and making their products more useful to customers.</p> <p>Siempelkamp, a maker of large castings systems, equips its hardware with sensors to monitor the machines' operation to check that the metal parts fabricated match up completely with design data.</p> <p>Other examples include EBM Papst, a</p>	<p>specialist manufacturer in pumps and fans, and Hainbuch, a leader in workplace clamps.</p> <p>Indutherm, a supplier of specialist furnaces for the jewellery industries, goes further, giving customers an option on using a secure data network to allow Indutherm engineers to keep track of how their equipment is operating.</p> <p>In this way, the company can monitor the machines and offer maintenance tips.</p> <p>Trumpf, a maker of laser-cutting machines, offers a variation: an online service called Axoom, based on specialist software that controls laser-cutting machines installed by Trumpf in a customer's plant.</p>
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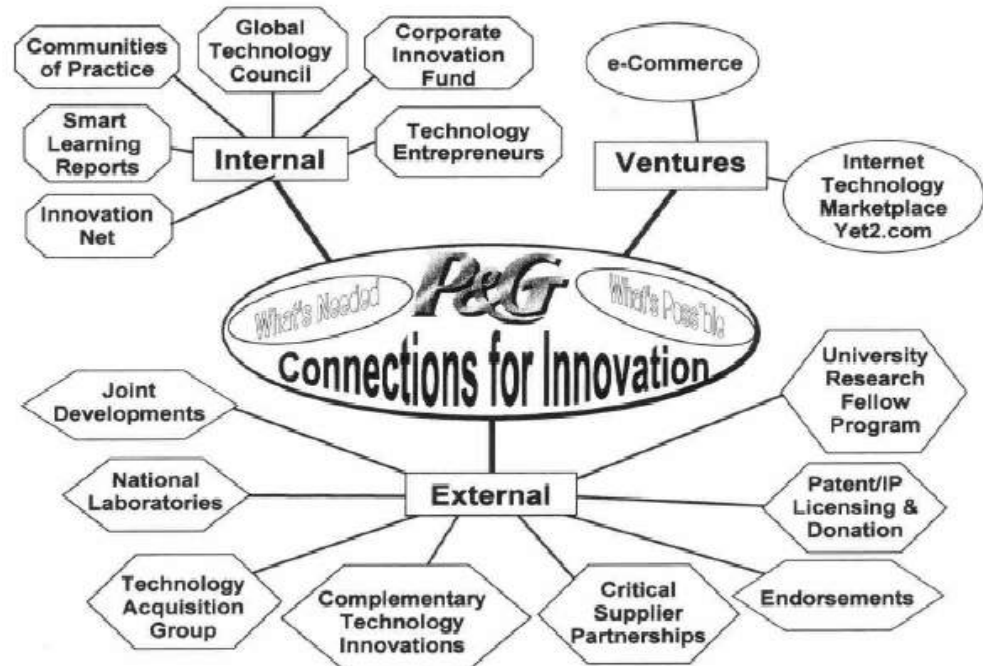
Source: Chesbrough, H. W. (2003)

## Objectives

- **Leverage external connections** to produce highly profitable innovations
- P&G CEO A. Lafley: **50%** of all innovations should be acquired externally

## Benefits

- **35% of new products** in the market have elements from outside P&G
- **45% of all initiatives** in NPD have key elements that were discovered externally
- **R&D productivity increased by 60%**
- Innovation success rate more than **doubled**
- **R&D investment** went down from 4.8% in 2000 to 3.4% in 2006
- Compared to 2000, **share price** doubled



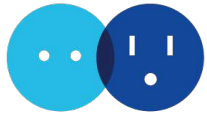
*„Most companies are still clinging to a bricks-and-mortar R&D infrastructure and the idea that their innovation must principally reside within their own four walls.“*

*Nabil Sakkab, VP R&D at P&G, 2002*

- **Access to new knowledge**
- **Exploitation of synergies**
- **Better access to markets**
- **Reduction of development times**
- **Reduction of development cost**
- **Minimization of risks**
- **Improved competitive position**
- **Increased flexibility**
- **Access to entrepreneurial talent**
- ...



- Meanwhile, BMW is aiming to produce fully **self-driving cars** – called iNext – by 2021 after entering a partnership with US computer chip group Intel and Israeli sensor maker Mobileye.
- BMW declared it wanted to become the “number one in autonomous driving”, hence publicly confirming its ambition to **dominate a technology that many believe will revolutionize the motor industry**.
- The collaboration comes as **carmakers struggle** with the complexity of engineering vehicles that can drive themselves.
- BMW and its partners did not disclose the scale of their technology investment, although Intel said it was spending “several hundred million dollars” on the venture – indicating **a budget approaching \$1bn** if the three companies share the costs.
- Under the terms of their partnership, the **companies remain free to pursue similar ventures with rival firms**. Mobileye is already working with General Motors, Volkswagen and Nissan on mapping technology, while its sensors are also used by Tesla.



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**HV** HOLTZBRINCK  
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**T** | TENGELMANN  
ventures

**BASF**  
The Chemical Company

**T** . . **hub:raum**



**i2M**  
a MANN+HUMMEL company



- Through a \$310m fund, Toyota invests in 15 technology start-ups to keep pace with innovation in autonomous driving and incursions by tech rivals such as Google.
- Mr Toyoda launched the fund in late 2015 with Shuhei Abe (CEO of Tokyo-based hedge fund Sparx) and Sumitomo Mitsui Banking Corp.
- The fund comprises 19 investors and focuses on investments in tech companies ranging from car sharing, Artificial Intelligence, flat-panel satellite antennas to home robots and hydrogen-related technologies.
- “The first priority for our investment is to find a company that has a technological edge. The key word is the new services that will emerge when everything becomes connected in the age of ‘internet of things’” (Takaki Demichi, Sparx Asset Management)
- Additionally, investing in the fund is part of an effort by Mr Toyoda to speed up decision-making at the company.
- The fund has an investment span of up to 10 years with a target internal rate of return of 15 per cent.



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SOME KEY FACTS:

FOUNDED IN 2009 AS A WHU-SPIN OFF (PROF. ERNST & NILS OMLAND)

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PATENT ASSET INDEX™ AS THE STANDARD TO ASSESS PATENT QUALITY

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# How to Re-Invent the Firm in the Light of Digitization

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## The Case of Axel Springer

Axel Springer SE is the leading digital publisher in Europe. The digital media channels already contribute nearly three quarters of total pro-forma revenues today.

Founded in Hamburg in 1946 (by Axel Springer)

Market leader in the German media business, but also active in more than 40 countries

3 business segments: informative and entertaining journalism, marketing and classifieds

## Key facts (2016):

Employees 15.323

Total revenues € 3.290 million

Operating profit (EBITDA) € 595 million

Headquarters Berlin

Listed on stock exchange Since 1985, since 2010 listed in the MDAX



axel springer



**“Springer is falling short, when it comes to electronic media!”**

„... [the] chaotic **Web-- Playground** of Axel-- Springer...“

„Europe’s largest media house –  
**a midget in the internet.**  
At least they got a strategy now.“

 **Handelsblatt**

May 1999

 **DIE WOCHE**  
DEUTSCHLANDS MODERNE WOCHENZEITUNG

May 2000

 **FINANCIAL TIMES**  
DEUTSCHLAND

October 2000

**axel springer** 

"We want to be the **winner** of **digitization** in the **European media business**."



*Mathias Döpfner, CEO Axel Springer SE since 2002*



*"I will definitely not become tired to demand the participation on all existing electronic media platforms and even more on all new information systems still to come."*

Axel Springer, October 1978

# Key Elements of the New Strategy: Transforming the Classic Revenue Streams of a Publisher



## - Paid Models



For all segments: main activities only

## - Marketing Models



## - Classified Ad Models



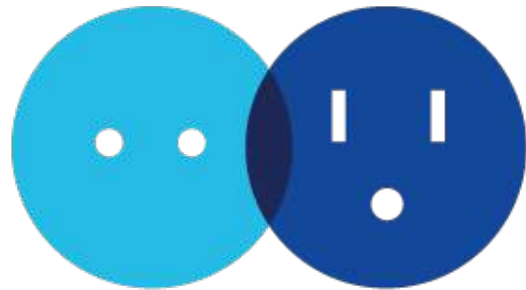


# Combining Acquisitions & Organic Growth



Acquisitions	> 80
Organic growth	> 140
<b>Σ</b>	<b>&gt; 220</b>

Info: Selection, cumulative figures

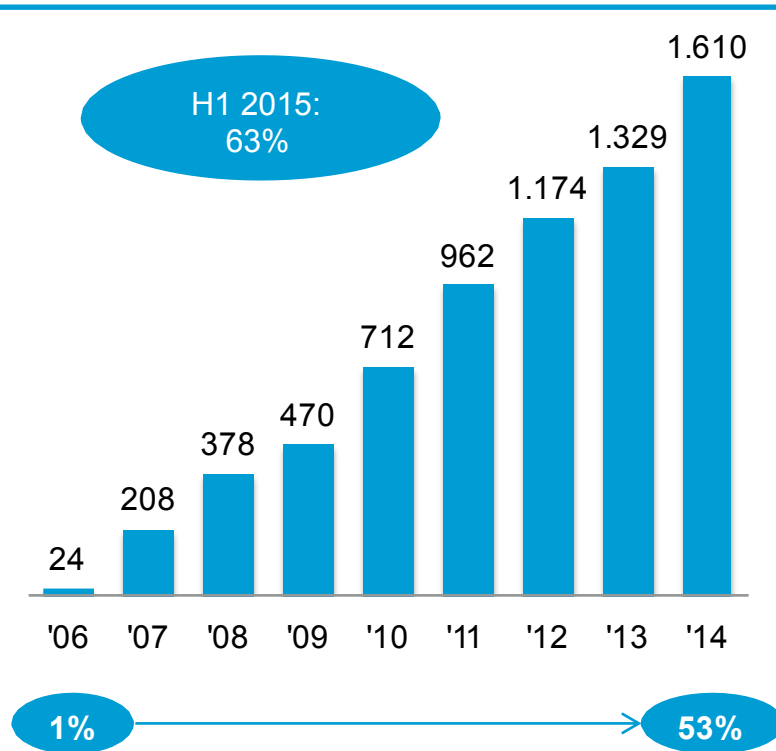


AXEL SPRINGER  
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# Impact: Digital Revenue & EBITDA Share Increased from 1% to >63% since 2006

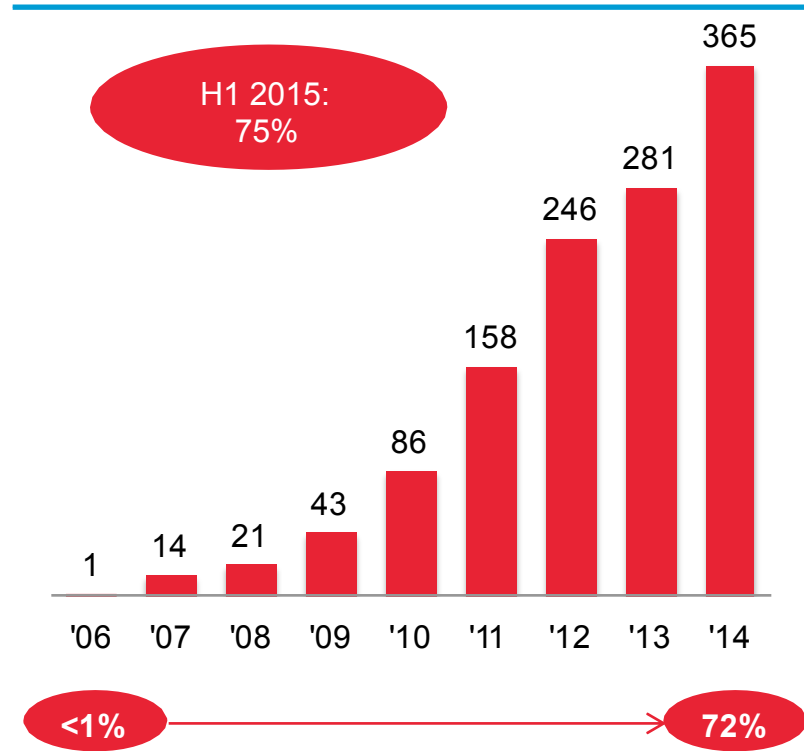
2016: 2.216 (67,4%)

Digital revenue (in Mio. €)



2016: 431 (72,5%)

Digital EBITDA (in Mio. €)



Info: IFRS figures might deviate slightly – adjusted for educational purposes

“Springer generates **record with digital media.**“

"Springers path is **radical**, no doubt. But it is the **right one.**"

“Döpfner nonetheless made clear [...] he’s **not nearly done with his foray into the digital world.**”

 **Handelsblatt**

March 2013

**THE WALL STREET JOURNAL.**

August 2013

**BloombergBusiness**

September 2015

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- Digitization is a **disruptive** force in almost any industry.
- Firms need to **radically** change themselves, otherwise they fall behind or get even driven out of the market (no one is too big to fail).
- **Open innovation strategies** are an important key to succeed in the era of digitization.
- Engagement with **start-ups** is critical (incubation and corporate venturing) because this is often the only way to **access great new ideas** and to **attract and retain entrepreneurial talent**.
- **Eco-systems** are key to success (support start-ups, partnerships, learning, networking, access to capital and critical resources; like in **NRW**)

Thank you for your attention!