Center
for International **Intellectual**
Property Studies | CEIPI
University of Strasbourg

Digitalpatente und KI basierte Use Cases für KMUs

AWS
Webinar
02.03.2021

Prof. Dr. Alexander J. Wurzer

CEIPI: Center for International Intellectual Property Studies

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University of Strasbourg

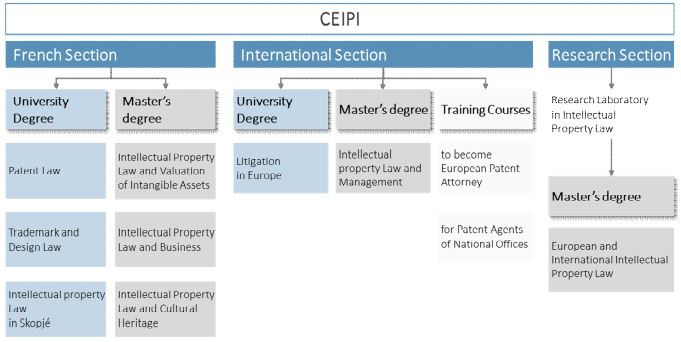
CEIPI is a European Center of Excellence for Intellectual Property and an international IP training and research center

The Central European Training Center for Authorized Representatives to the EPO

Training in 36 European cities

An institute at the Law Faculty of the University of Excellence Strasbourg

Université de Strasbourg
Excellence University



1,200+ participants p.a. in CEIPI training programs

The European IP institutions run the Executive Board

WIPO WORLD INTELLECTUAL PROPERTY ORGANIZATION
Europäisches Patentamt
European Patent Office
Office européen des brevets
EUIPO EUROPEAN UNION INTELLECTUAL PROPERTY OFFICE
EIPIN European Intellectual Property Institutes Network

TOP 50 Global Think Tank

Trends in the Application of Digital Patents

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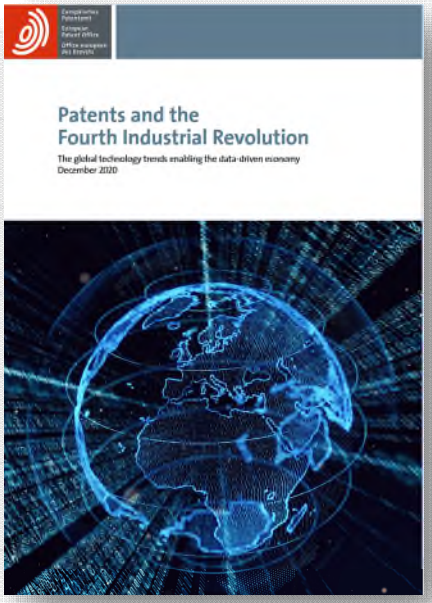
Figure E1

Global growth of IPFs in 4IR technologies versus all technology fields, 2000-2018



1 400%
1 200%
1 000%
800%
600%
400%
200%
0%

2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

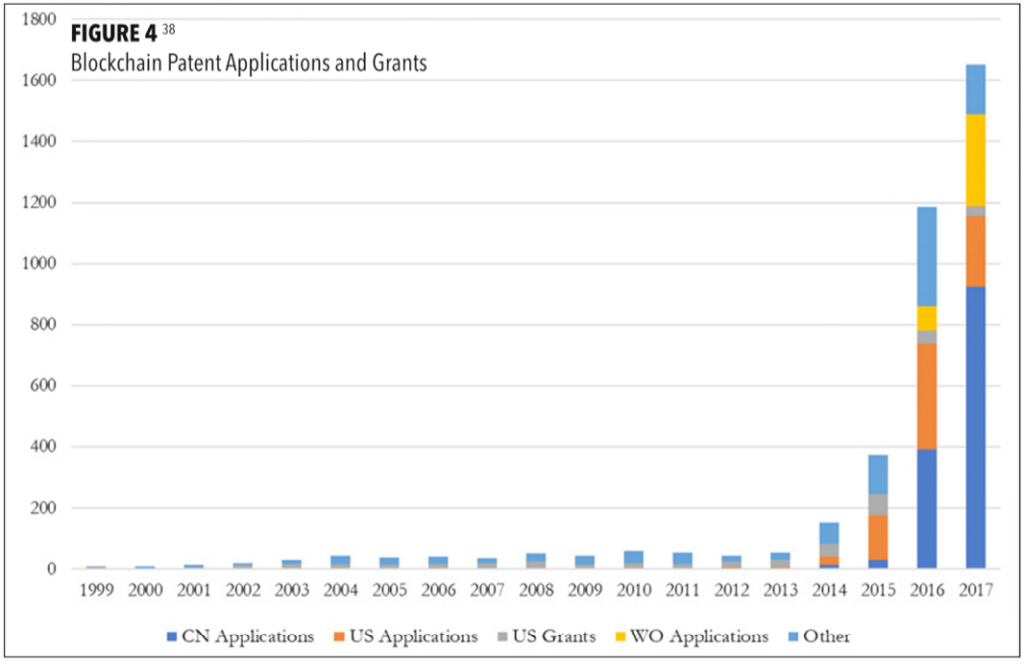
Earliest publication year

IPFs in 4IR technologies
IPFs in all technologies

Source: European Patent Office

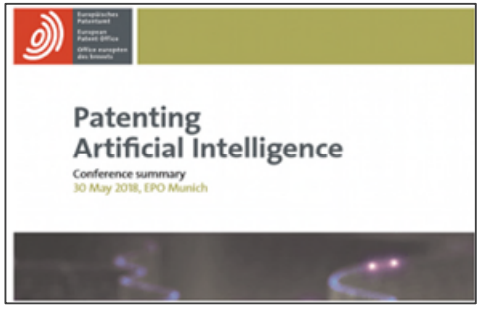
Link to the EPO study

Trend of Applications: AI/ Blockchain



Link Trend Analysis Blockchain-Technologies

Link Trend Analysis bei IOTA-Technologies



Link to the AI Initiative of European Patent Office

Link WIPO Initiative

CEIPI Education in IP Management

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- **Course of studies**
  Founded in 2006 to enable the European industry to gain competitive advantage in digital transformation
- **Executive IP Management Days**
  Annual exchange of industry best practice

  Link to the Events
- **Conferences**
  Interdisciplinary exchange between industry, academia and institutions to push the development of economic benefits of IP
- **Graduate School**
  Graduate school dedicated to industrial subjects with graduate students from the industry

  Link to the Graduate School
- **Blog**
  Communication platform for customer-focused IP strategies in times of digitization (www.ipbusinessacademy.org)

  Link to the Blog

IP B.A. distance learning University Diploma IP Business Administration

Link to the IP B.A. Program with the AWS

MIPLM Industry Partner and Best Practice Case Studies

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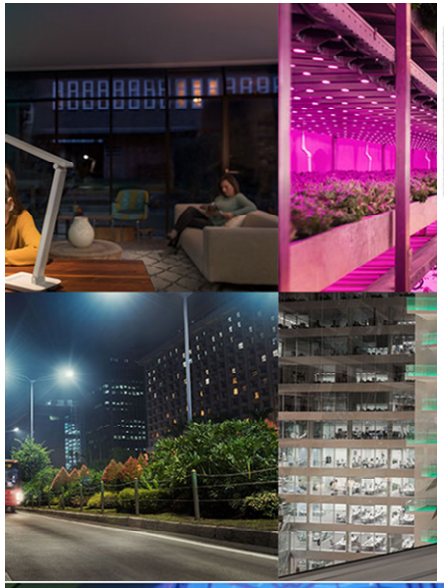
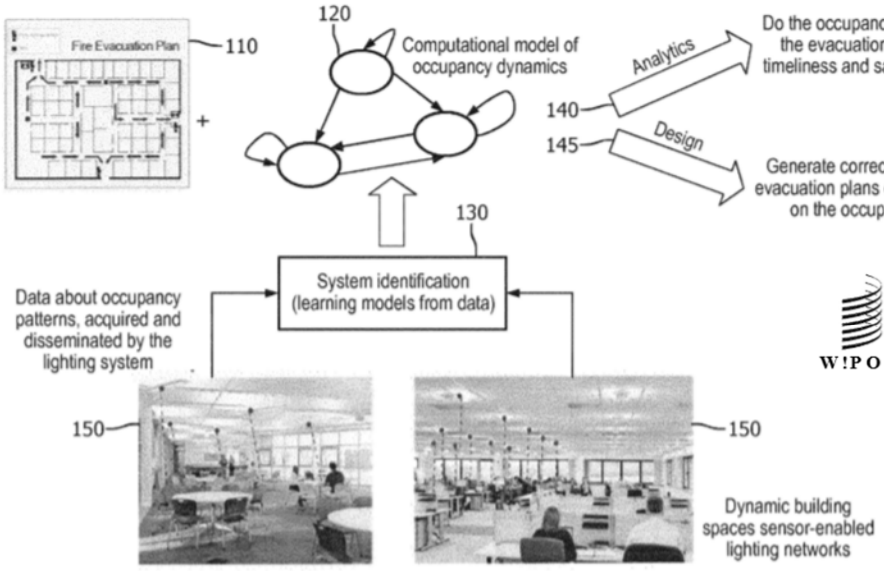
Link to Case Study Collection

Philips / Signify: Use Case Business





Licensing programs

Each year, Signify invests hundreds of millions of Euros for research and development of new technologies and products. In the course of the research and development work these technologies and products are also protected by patents. We decided to make many of these Signify developed technologies available to those wishing to use them by granting licenses under its patents and sometimes also the related know-how. The conditions of licensing vary for the different technologies.

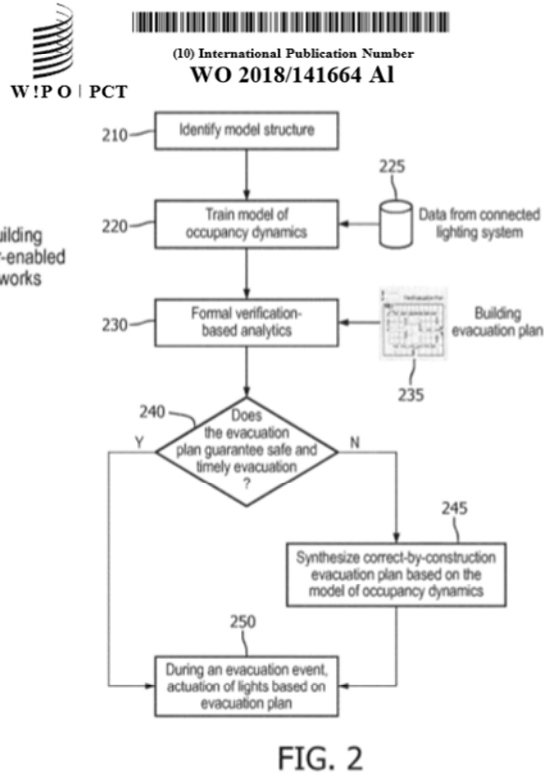


FIG. 2

Link to the business model of Signify

Evolution of Industrial Digitalization

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Relocation of the system boundaries

Phase 1: Digitization of the machine

Phase 2: Digitization of the machine environment

Phase 3: Digitization of the Ecosystem

The Success of IP is Determined within the Market
Example: Netflix (US)

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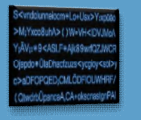
Digital world

Digital service
Layer 5

Displaying data associated with a program based on automatic recognition
EP3138296B1

Analytics
Layer 4



Fault detection in streaming media
EP2654225B1

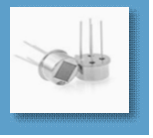
App + Movie Rental → Individual Content

Connectivity
Layer 3

Parallel streaming
EP2545459B1

Physical world

Sensor and actuator
Layer 2



Application discovery
EP2680500B1

Physical product
Layer 1

Securely connecting control device to target device
EP2852122B1

The Success of IP is Determined within the Market
Example: ThyssenKrupp (DE)

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Digital world

Digital service
Layer 5

Analytics
Layer 4

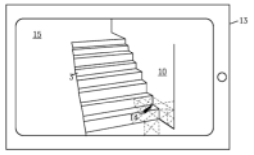
Connectivity
Layer 3

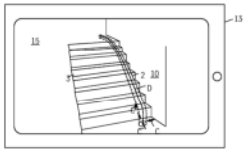
Physical world

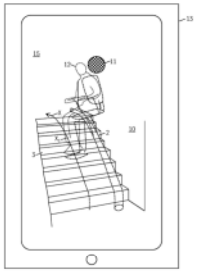
Sensor and actuator
Layer 2

Physical product
Layer 1

Method of planning a platform lift
WO 2018193034 (A1)







App + Hololens → Enhanced Sales Productivity → thyssenkrupp

IP-Design at ThyssenKrupp and Microsoft

The Success of IP is Determined within the Market
Example: Tencent (CN) + Mirriad (GB)

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Digital world

Digital service
Layer 5

System and Method Producing Video Data

Analytics
Layer 4

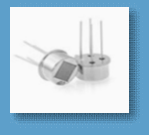
Identifying Segments of Video Data for the inclusion of additional video objects

Connectivity
Layer 3

Producing Video Data EP 3 076 681 B1

Physical world

Sensor and actuator
Layer 2



Apparatus and method for identifying insertion zones

Physical product
Layer 1

Processing and Apparatus for Advertising Component Placement

App + Content Streaming → Individual Product Placement

Tencent 腾讯

Mirriad

Patent Strategies for AI-based Product Placement

Goal of an IP Strategy:
Creating Added Value Positions with the Customer

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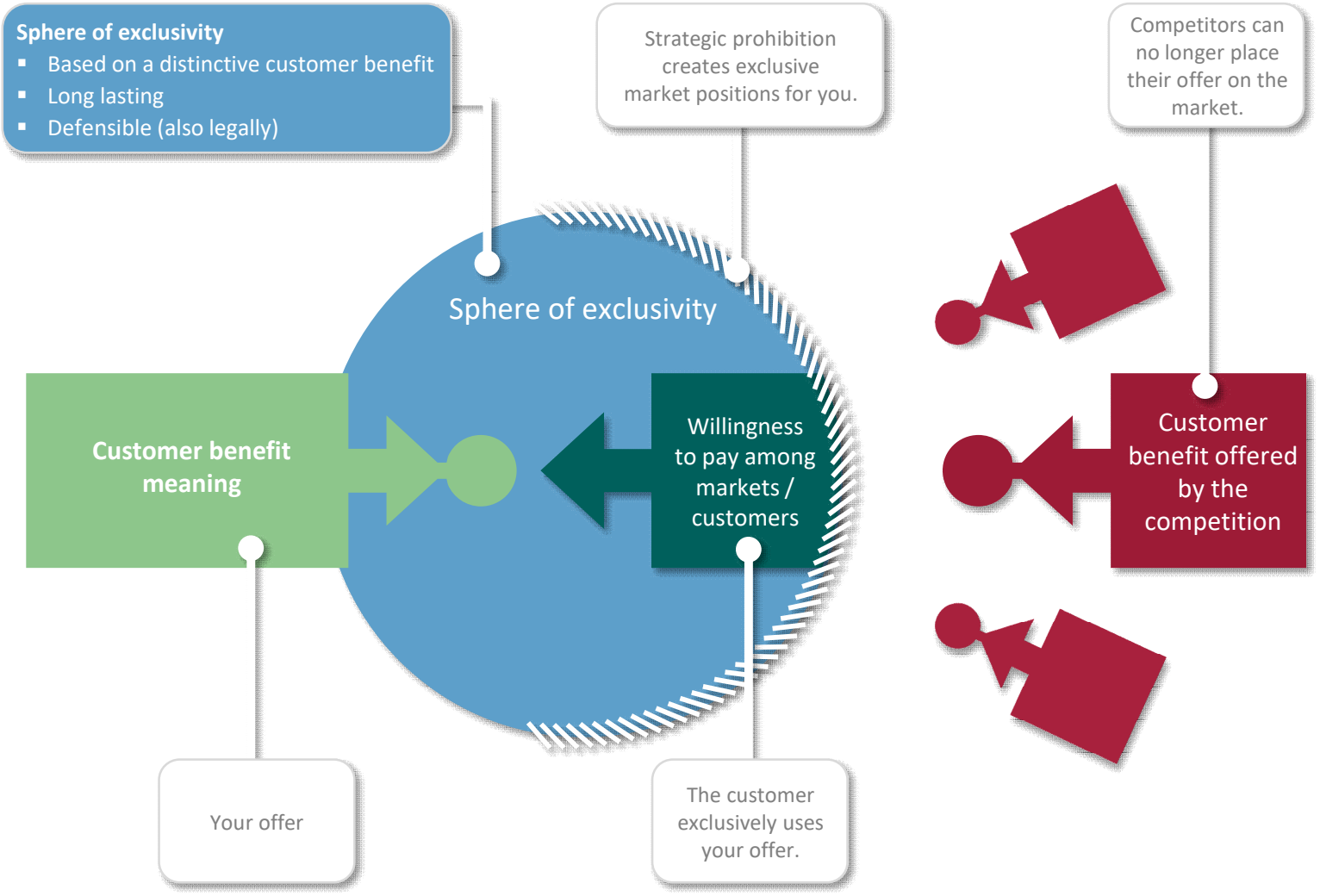

IP Design in the Digital Transformation

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Digital world

Digital service
Layer 5

Analytics
Layer 4

Connectivity
Layer 3

Physical world

Sensor and actuator
Layer 2

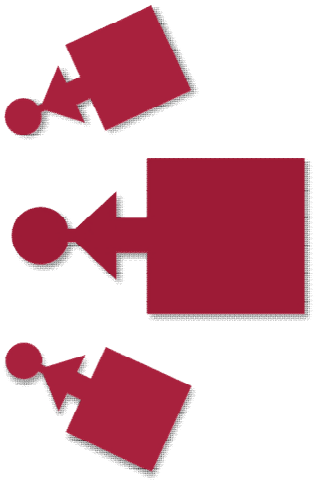
Physical product
Layer 1

Digital Global

Physical Local

Customer benefit meaning

Willingness to pay



Source: Fleisch, E. / Weinberger, M. / Wortmann, F. (2015): Geschäftsmodelle im Internet der Dinge, in: zfbf, Dezember 2015, S. 444 – 464.

IP Design in the Digital Transformation

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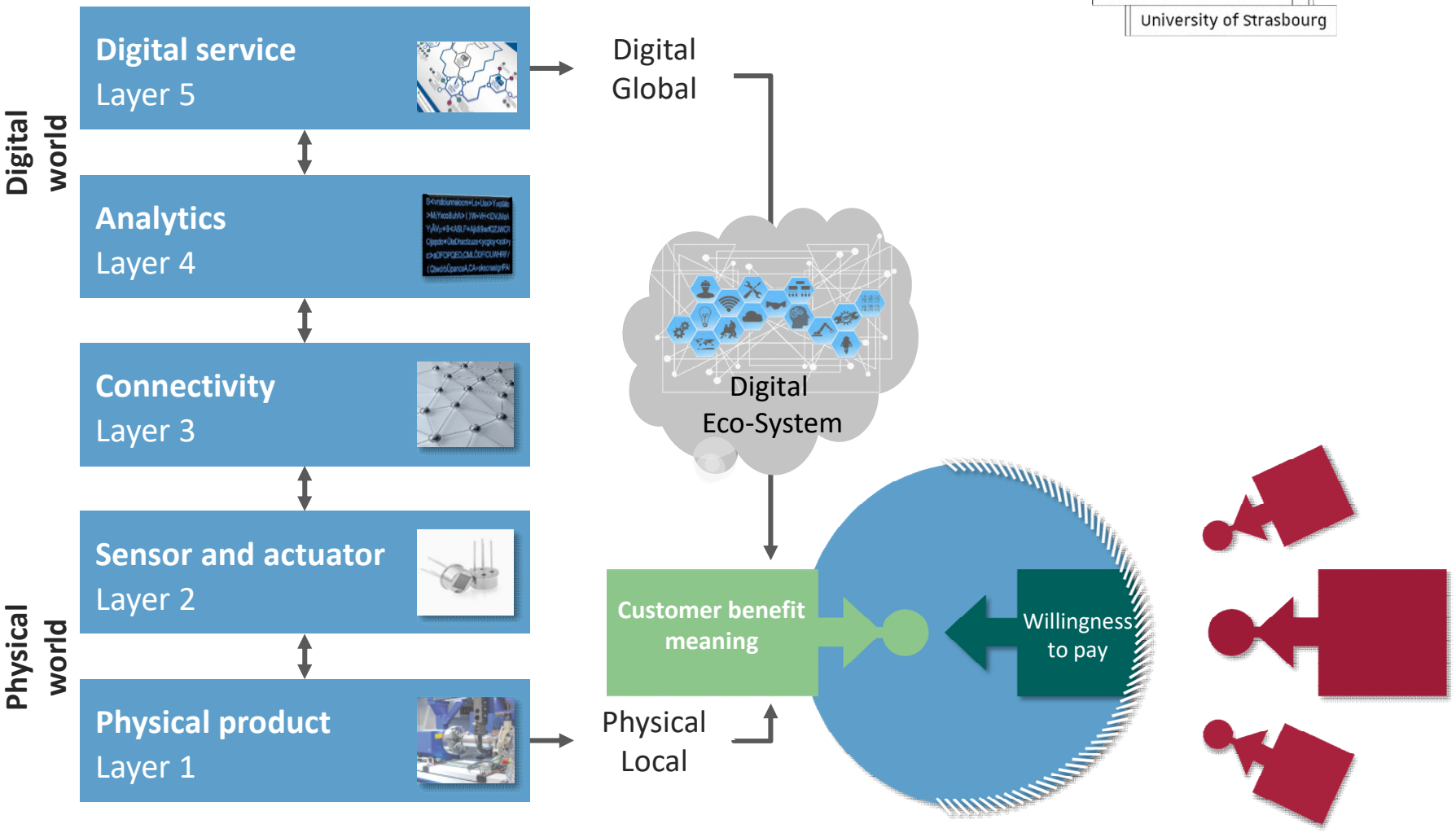

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IP Design in the Digital Transformation

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Digital world

Digital service
Layer 5

Analytics
Layer 4

Connectivity
Layer 3

Physical world

Sensor and actuator
Layer 2

Physical product
Layer 1

Digital Global

Digital Eco-System

Qualitatively new digital competition

Customer benefit meaning

Willingness to pay

Physical Local

Competitive intensity and speed

Low — High

Source: Fleisch, E. / Weinberger, M. / Wortmann, F. (2015): Geschäftsmodelle im Internet der Dinge, in: zfbf, Dezember 2015, S. 444 – 464.

Taxonomy

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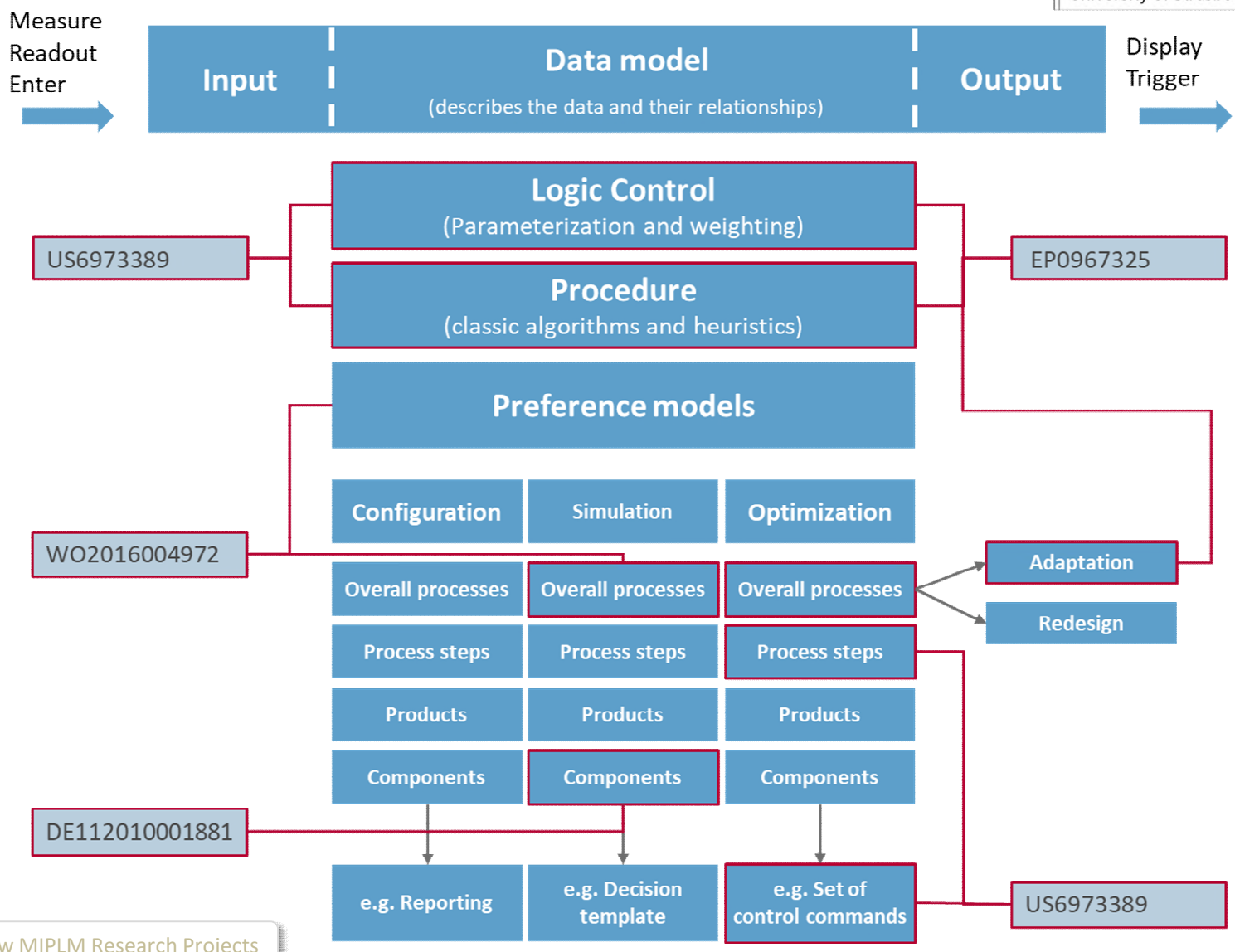

Overview MIPLM Research Projects

The Success of IP is Determined within the Market by Exclusive Value Creation

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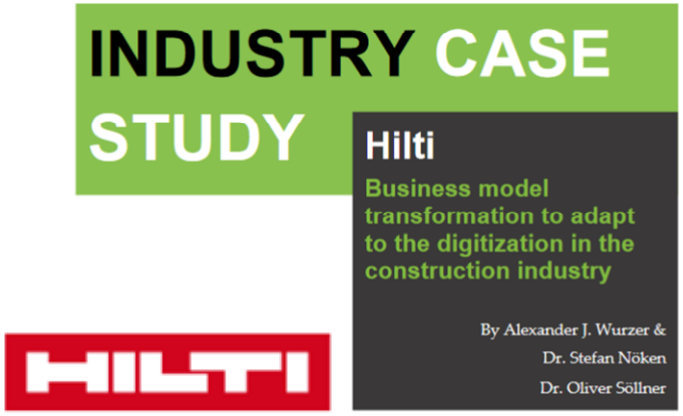

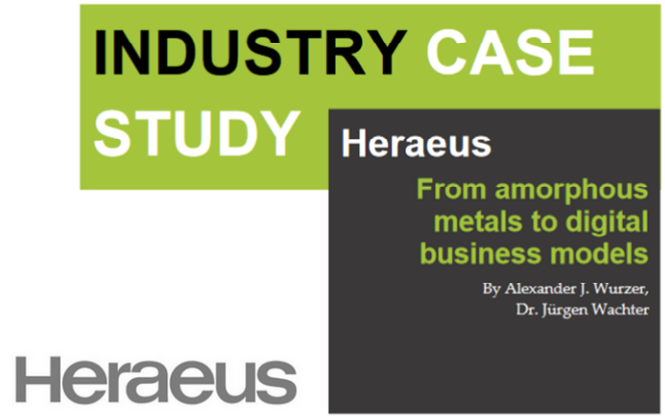

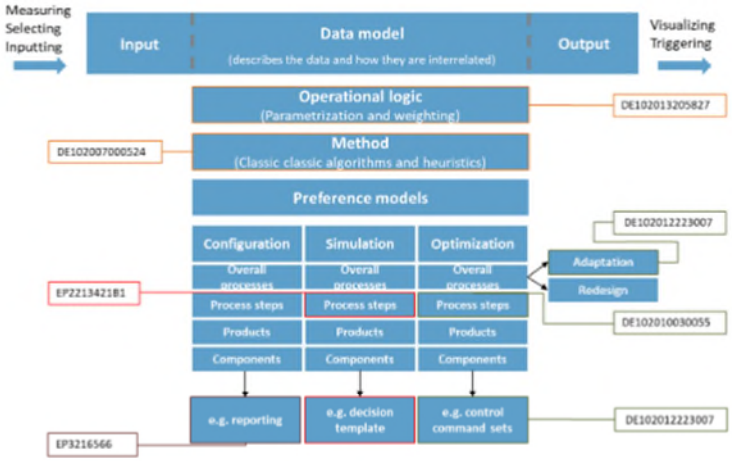

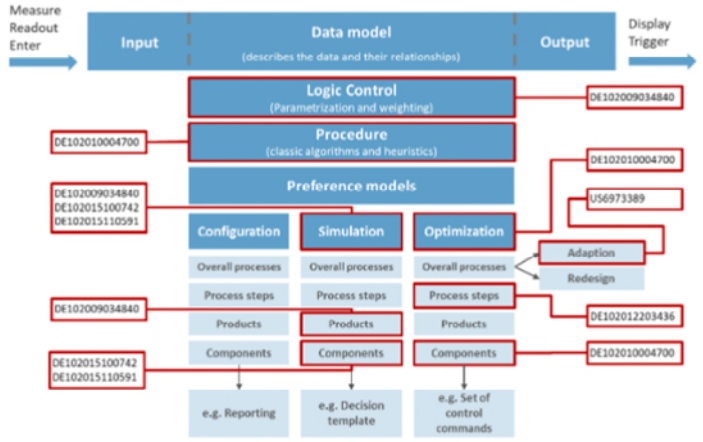

Link Case Study Hilti

Link Case Study Heraeus

Use case: Destroying parasites on fish

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Link to the Video

Use case: Destroying parasites on fish

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The salmon market:

- Around 70% of Atlantic salmon is produced in aquaculture
- Aquaculture harvest grows by 7% per year since 2010
- 1.3 million tons per year (more than half of the world harvest) are harvested in the North Sea

Photo by Milo Weiler on Unsplash

Risk factors:

- A main risk factor in salmon farming are parasites such as sea lice
- Sea lice are classically controlled by good animal husbandry practice
- Also, the use of mechanical tools, such as special nets or physical lice removal systems, keeps fish healthy
- Esben Beck had the idea to use instead lasers for the lice removal

Photo by Jannes Mingram on Unsplash

Use case: Destroying parasites on fish

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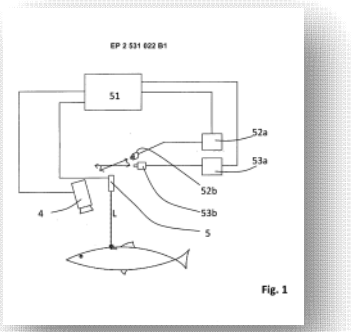
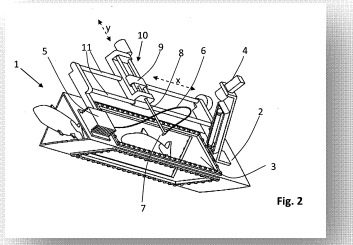
The solution:

- Esben Beck developed a submergible device to remove sea lice from salmons with lasers
- The device uses artificial intelligence to analyze the surface and path of the fish
- Underwater lasers and mirrors are used destroy the parasites



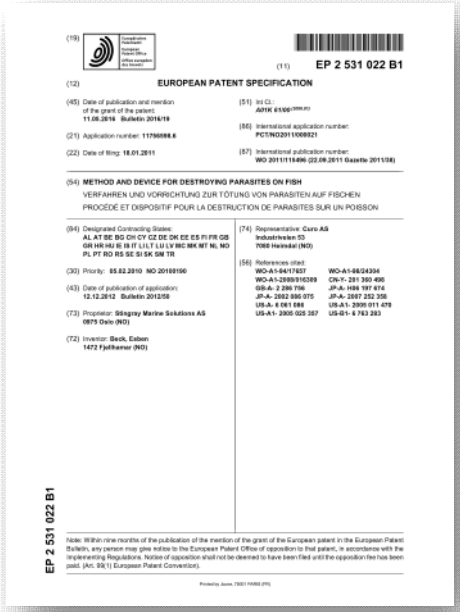


The advantages:

- Compared to tradition methods, fish are less stressed and harmed by the lasers
- The device can be operated 24/7 without any human guidance

The company:

- Esben Beck founded his SME Stingray Marine Solutions AS in 2012, which has now 50 employees and yearly sales of the AI driven devices of 10 million €
- He was nominated in 2019 for the European Inventor Award of the EPO in the category SME and his patent : EP2531022B1 Method and device for destroying parasites on fish



(19) EP 2 531 022 B1

(12) EUROPEAN PATENT SPECIFICATION

(11) EP 2 531 022 B1

(45) Date of publication and mention of the grant of the patent: 11.08.2016 Bulletin 2016/19

(21) Application number: 11706098.6

(22) Date of filing: 10.01.2011

(51) Int Cl.: A01K 61/00 (2006.01)

(86) International application number: PCT/NO2011/000021

(87) International publication number: WO 2011/115496 (22.09.2011 Gazette 2011/38)

(54) METHOD AND DEVICE FOR DESTROYING PARASITES ON FISH

VERFAHREN UND VORRICHTUNG ZUR TÖTUNG VON PARASITEN AUF FISCHEN

PROCÉDÉ ET DISPOSITIF POUR LA DESTRUCTION DE PARASITES SUR UN POISSON

(84) Designated Contracting States: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

(30) Priority: 05.02.2010 NO 20100190

(43) Date of publication of application: 12.12.2012 Bulletin 2012/50

(73) Proprietor: Stingray Marine Solutions AS 0975 Oslo (NO)

(72) Inventor: Beck, Esben 1472 Fjellhamar (NO)

(74) Representative: Curo AS Industrivegen 53 7080 Heimdal (NO)

(56) References cited: WO-A1-94/17657 WO-A1-98/24304 WO-A1-2009/010369 CN-Y- 201 360 496 GB-A- 2 286 796 JP-A- H09 197 974 JP-A- 2002 090 075 JP-A- 2007 252 358 US-A- 5 061 886 US-A1- 2005 011 470 US-A1- 2005 025 357 US-B1- 6 763 293

EP 2 531 022 B1

Note: Within nine months of the publication of the mention of the grant of the European patent in the European Patent Bulletin, any person may give notice to the European Patent Office of opposition to that patent, in accordance with the Implementing Regulations. Notice of opposition shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

University Certificates and Diploma in IP Management
Cooperation CEIPI and AWS

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Education in IP Management in distance learning:

8 independet university certivicates in IP management

- IP Strategy development
- IP Valuation I
- Integrated IP and innovation management
- IP in the industry 4.0
- IP valuation II
- Quality in operational IP management
- IP portfolio management and controlling
- Leadership in IP management

University diploma
IP Business Administration

- Consists of all 8 certificates
- and a final examination

More Information: Link to the IP B.A. Program with the AWS

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IP-Management Ausbildung CEIPI & AWS

Programm

Die IP-Management Ausbildung bietet Ihnen fundiertes und weitreichendes Wissen zum Verständnis und zur Anwendung von IP in kleinen und mittelständischen Unternehmen. Bestandteile sind etwa IP-Strategieentwicklung und IP-Valuation. Sie können Ihrem KMU zum Erfolg in der Digitalisierung verhelfen.

Die Ausbildung ist jederzeit online möglich, die Kurse sind individuell buchbar. Sie können entweder an allen acht Kursen teilnehmen und damit ein Universitäts-Diplom erwerben, oder je nach Bedarf einzelne Kurse belegen.

Wichtiges in Kürze

Sprache:	English
Gebühr pro Zertifikat:	900 Euro
START:	15.03, 15.06, 15.09 and 15.12
Info:	Timetable
Voraussetzung:	keine
Zielgruppe:	Mitarbeiter KMUs mit und ohne IP Vorkenntnisse
Abschluss:	Universitätszertifikat der Universität Strasbourg. CEIPI

More Information: Link to the IP B.A. Program with the AWS