



Industrie 4.0 ist nur ein Teil der Wahrheit

Innovation Night – Friedrichshafen – 21.10.2015

Dr. Markus Weinberger – Direktor Bosch IoT Lab@Universität St. Gallen

Bosch Internet of Things & Services Lab, a Cooperation of HSG and Bosch

Prolog

Prolog








<https://en.wikipedia.org/wiki/ZX81#/media/File:Sinclair-ZX81.png>

Agenda

- Examples and the Bosch IoT Lab@University of St. Gallen
- Video: Business Models and IoT
- Business Impact of IoT – 3 Main Effects
- Partner Ecosystems for IoT
- Summary

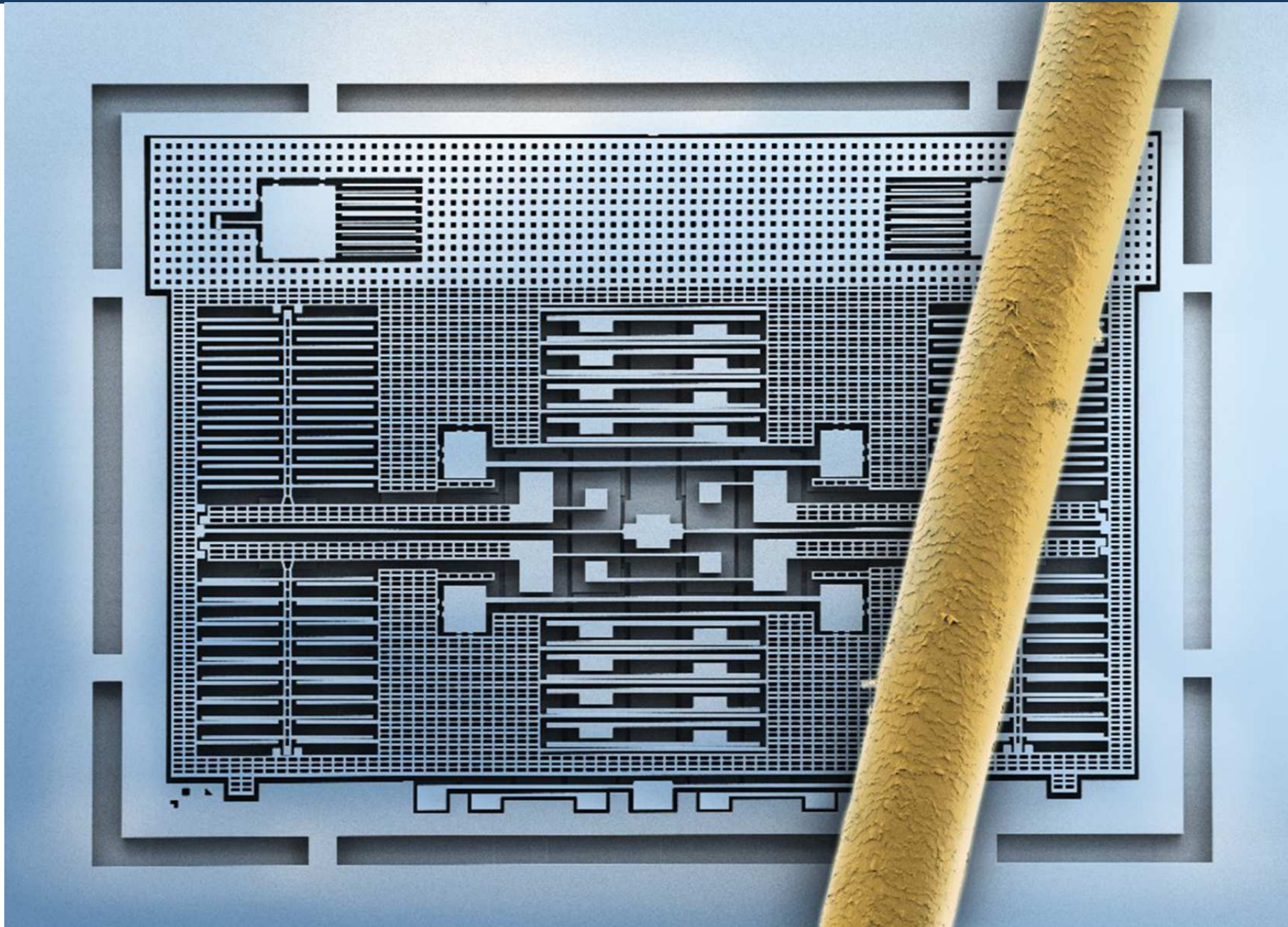
Bosch: four business sectors

2014 key figures

Bosch Group	<ul style="list-style-type: none">→ 48,9 billion euros in sales→ 290,000 associates→ 360,000 associates as per April 1.15*		
Mobility Solutions	→ One of the world's largest suppliers of automotive technology	68% share of sales	
Industrial Technology	→ Leading in drive and control technology, packaging, and process technology	32% share of sales	
Energy and Building Technology	<ul style="list-style-type: none">→ Leading manufacturer of security technology→ Global market leader of energy-efficient heating products and hot-water solutions		
Consumer Goods	<ul style="list-style-type: none">→ Leading supplier of power tools and accessories→ Leading supplier of household appliances		

*including BSH Hausgeräte GmbH (formerly BSH Bosch und Siemens Hausgeräte GmbH) and Robert Bosch Automotive Steering GmbH (formerly ZF Lenksysteme GmbH).

5 Billion Sensors in 10 Years



IoT Examples

Smart Fridge



IoT Examples

Smart Cow



Source www.medria.fr

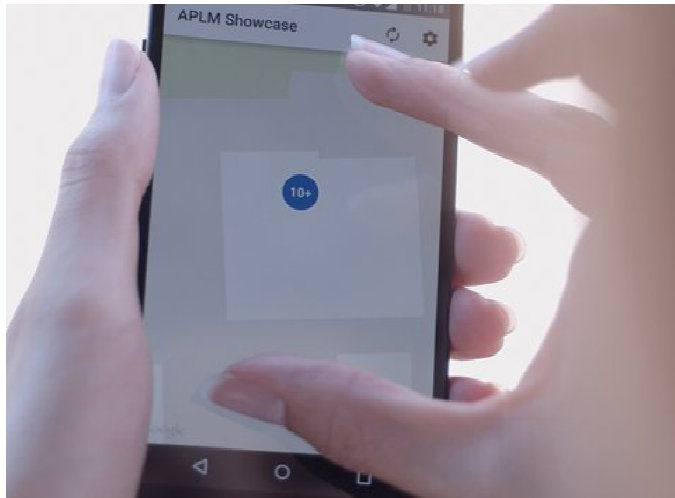
IoT Examples

Smart Rail Car



IoT Examples

Smart City - Parking



IoT Value Stack



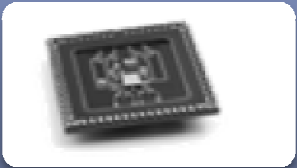
Digital Service



Analytics



Connectivity



Sensor / Actor



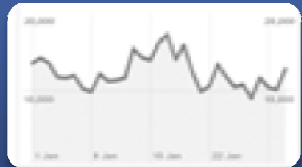
Physical Thing

Customer
Value

Bosch and the IoT value stack



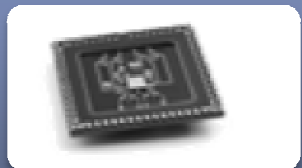
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Physical Thing



Bosch IoT Suite

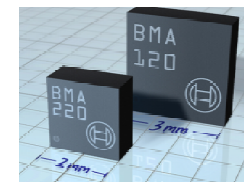
BPM

BRM

M2M

BDP

Partner



Internet of Things

*“The basic idea of the IOT is that **virtually every physical thing** in this world can also **become a computer** that is **connected to the Internet** (ITU, 2005). To be more accurate, **things** do not turn into computers, but they can **feature tiny computers.**”*

Prof. Fleisch, 2010

→ **Technology**

→ **Applications**

→ **Business**

Today's Projects at the Bosch IoT Lab

A Smart Home

CirQI: Intelligent Heating
in progress



Quantified Art
in progress



Security Light
Startup



B Mobility

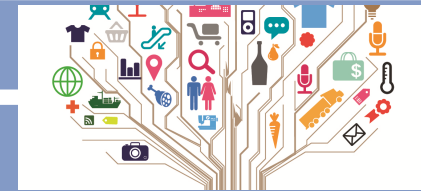
CarKit: Connected Car
in progress

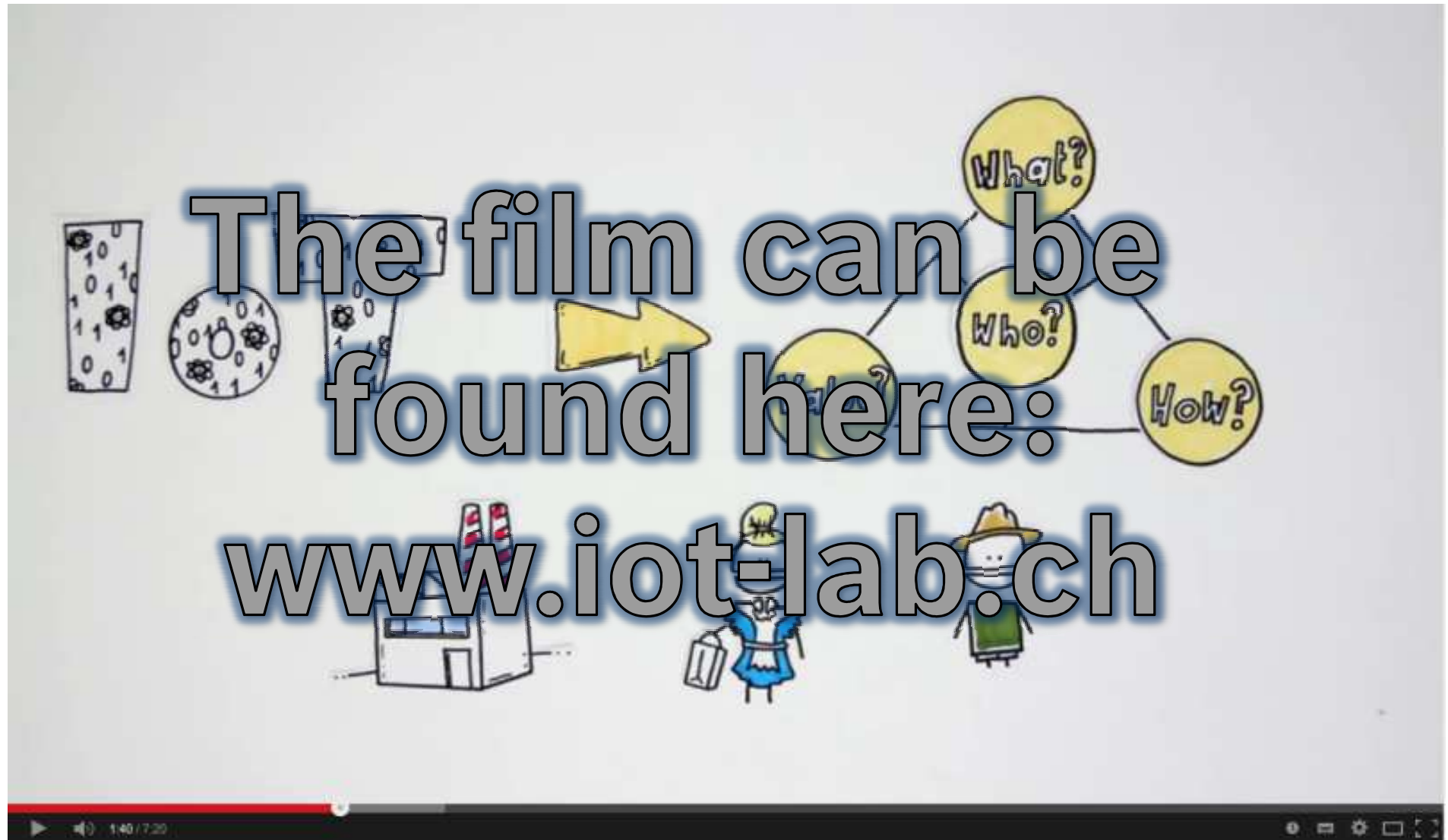


C IoT Transformation

IoT Business Models

IoT Platform





Agenda

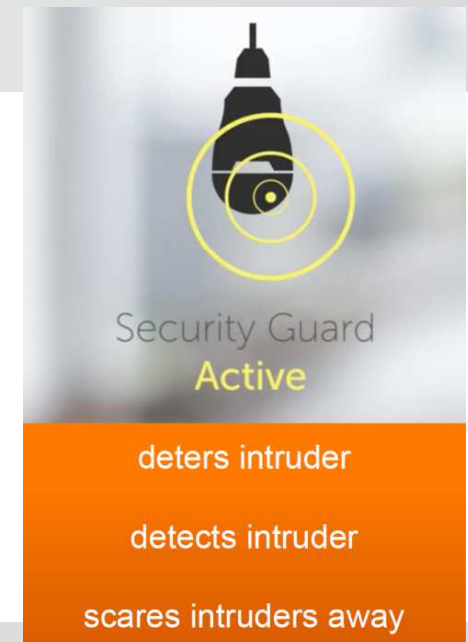
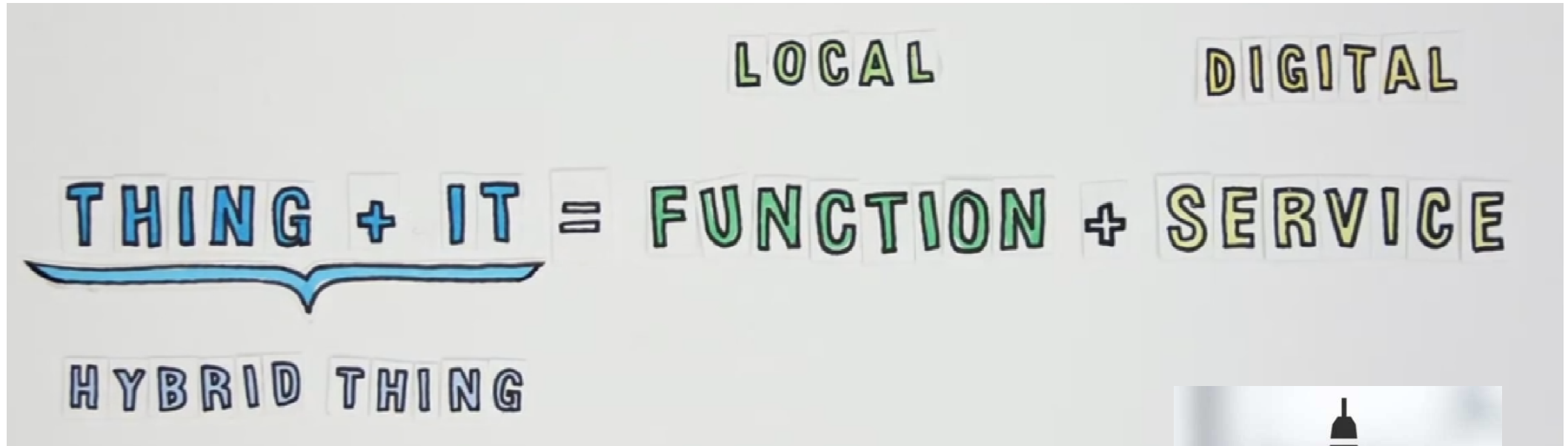
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Internet of Things – Example Comfy



Internet of Things – Example Comfy

Comfy is a **Digitally Charged Product**



What IoT does to Business

Three Main Effects

→ Digitally Charged Product

 comfy

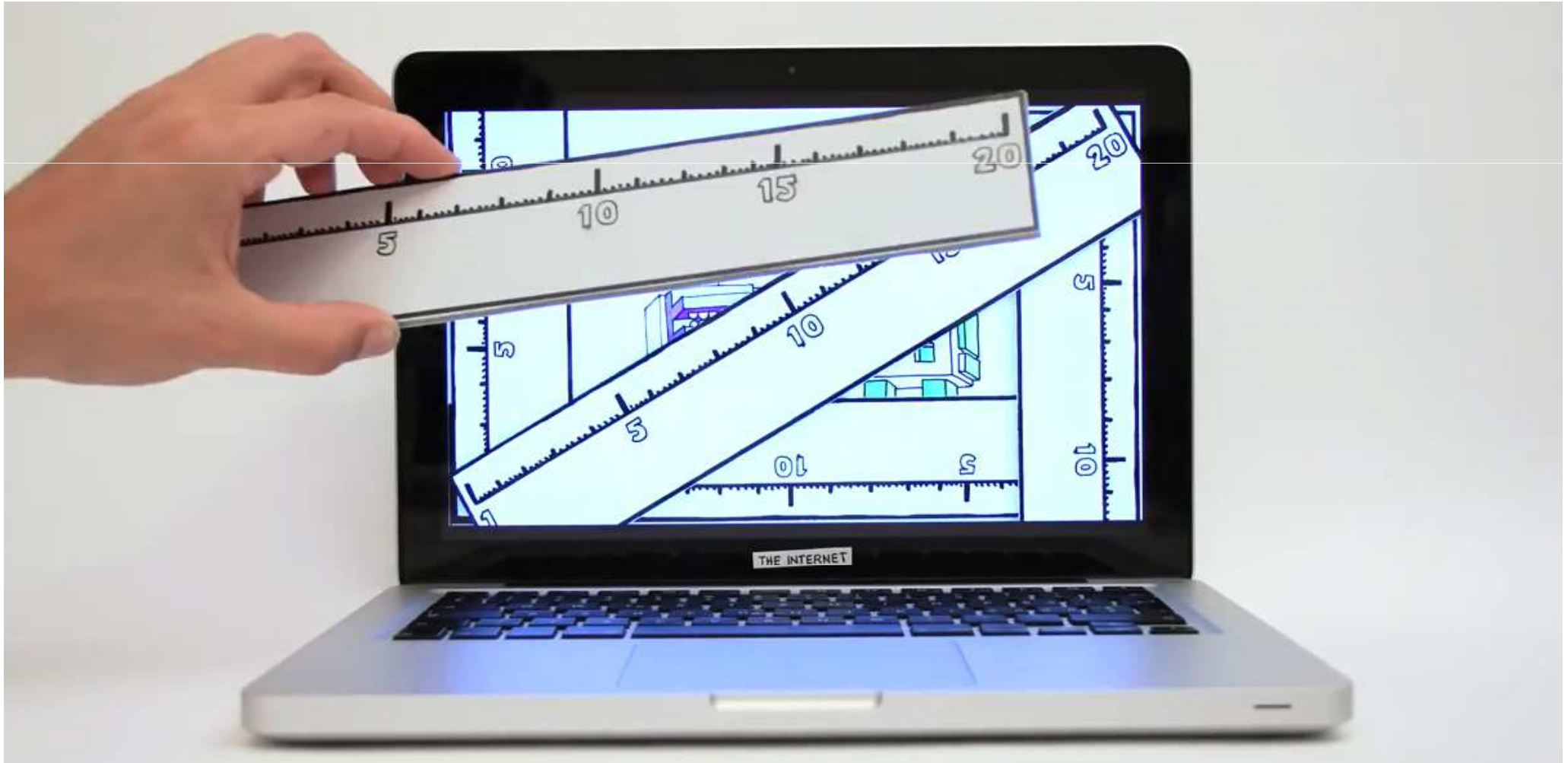


The smart light bulb that makes burglars believe you're at home while you're not.

available
on
KICKSTARTER
soon

What IoT does to Business

High Resolution Management



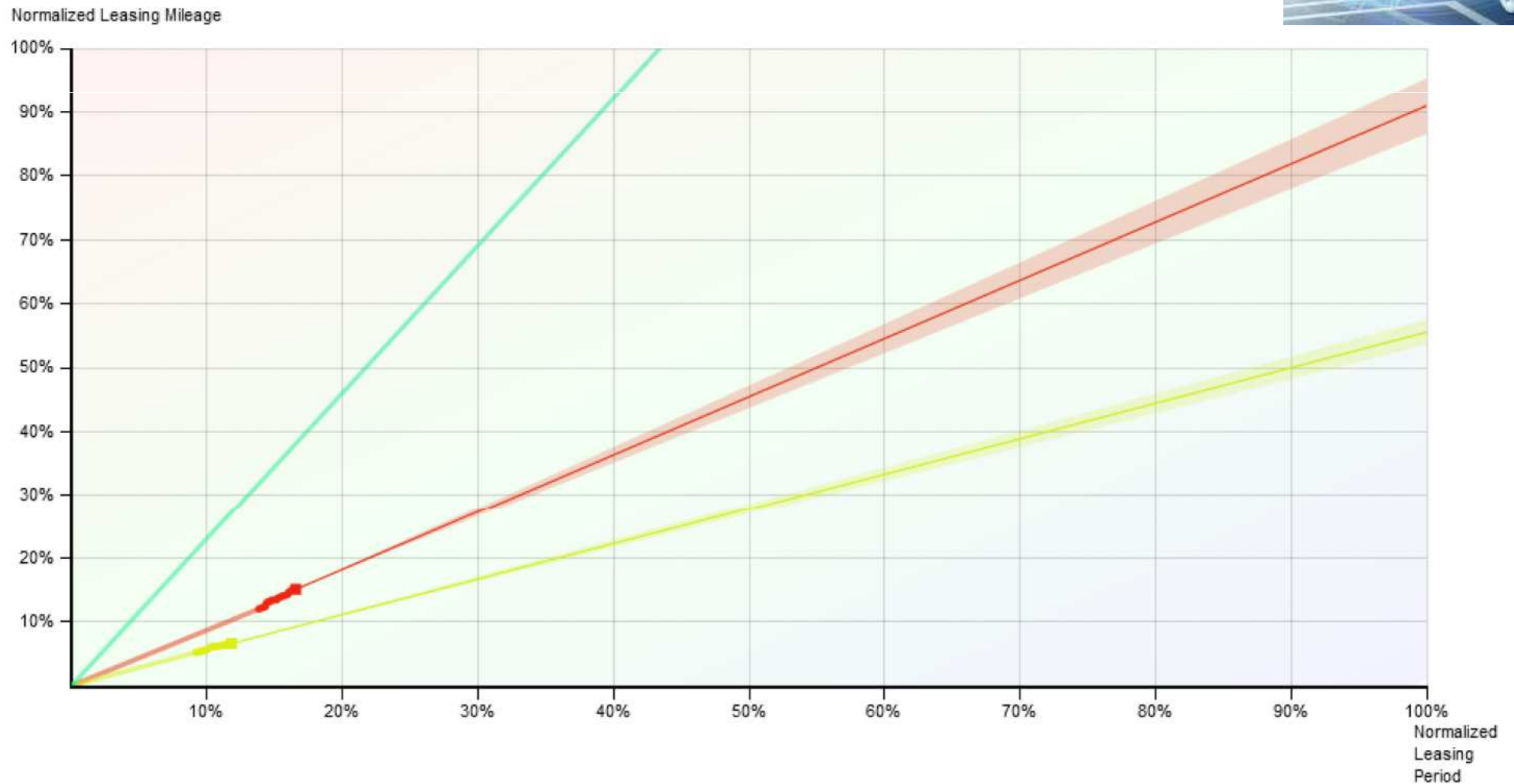
Internet of Things – Example Fleetmanagement



Source: pixabay.com/

Internet of Things – Example Fleetmanagement

Mileage is an important factor in car leasing



What IoT does to Business

Three Main Effects

→ Digitally Charged Product



The smart light bulb that makes burglars believe you're at home while you're not.

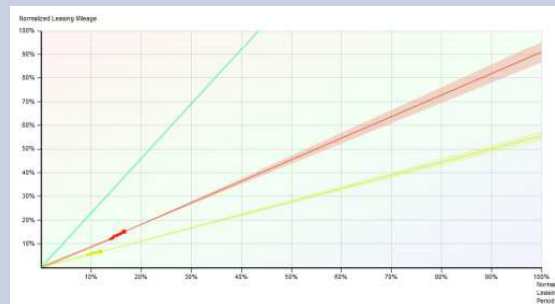


High Resolution Management (HRM)



→ Apply HRM to Your own Operations

Leasing Company



What IoT does to Business

Three Main Effects

→ Digitally Charged Product

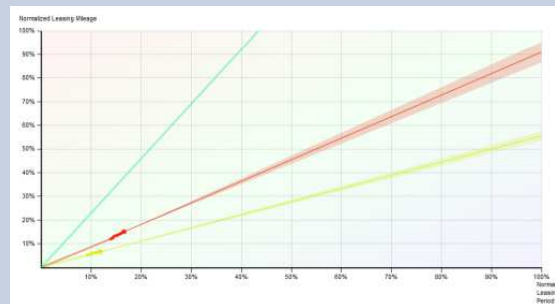


The smart light bulb that makes burglars believe you're at home while you're not.

High Resolution Management (HRM)

→ Apply HRM to Your own Operations

Leasing Company



→ Provide Products and Services that enable others

Bosch IoT Suite

BPM

BRM

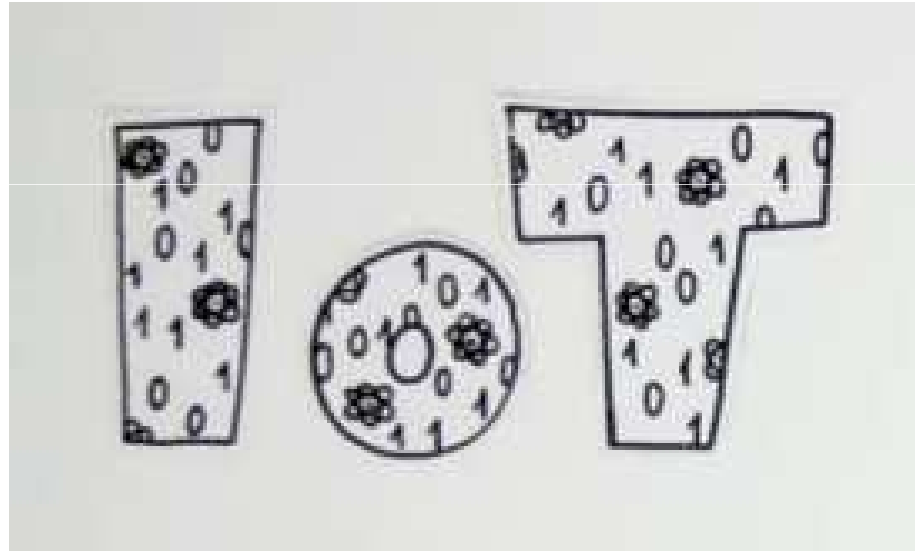
M2M

BDP



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In a little bit more Detail

IoT Value Stack



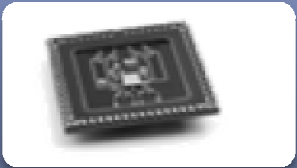
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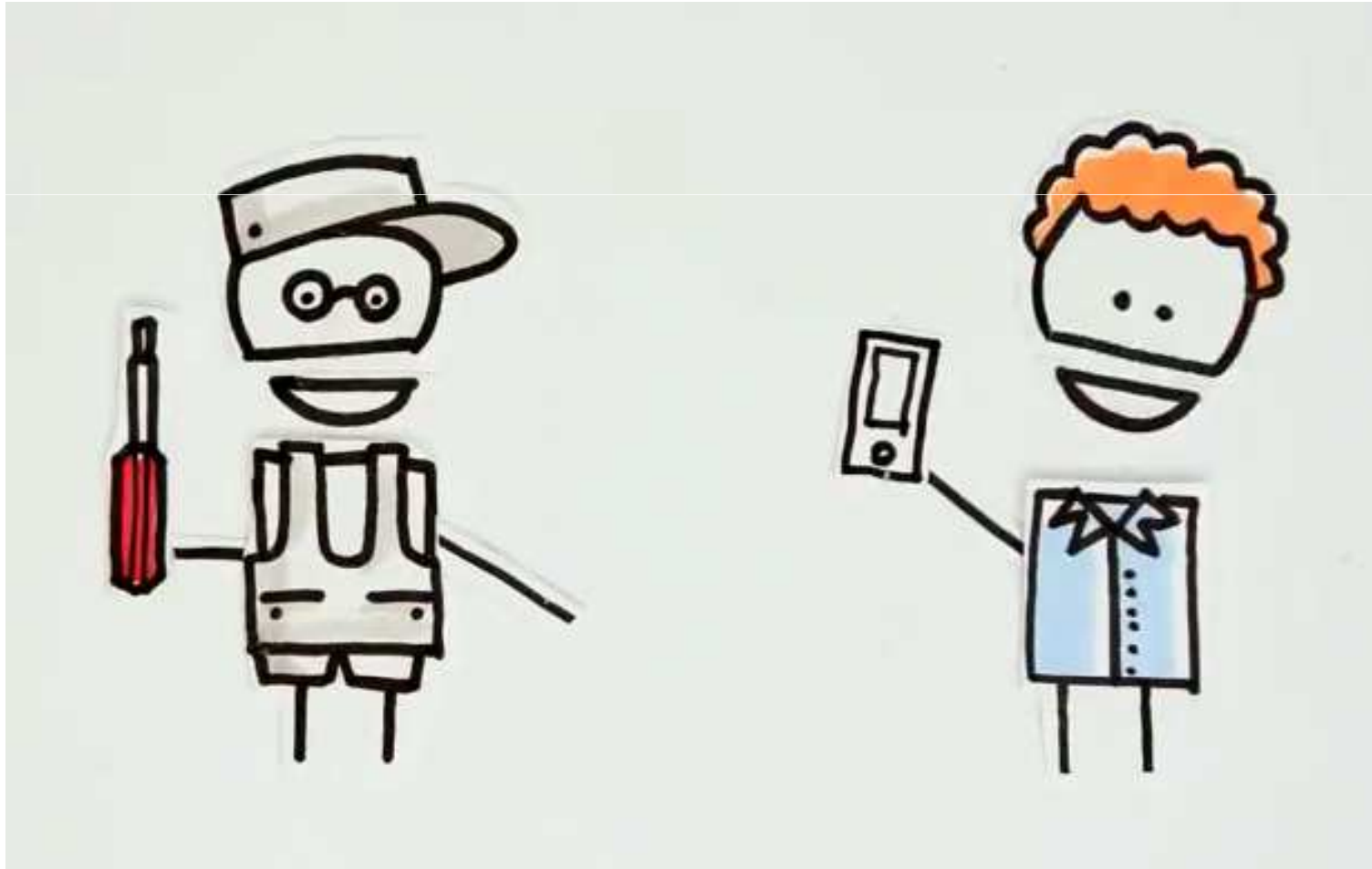


Physical Thing

Customer
Value

Internet of Things – Example Comfy

Value Stack Requires Different Capabilities



Internet of Things – Example Comfy

... that requires Partnering



„Companies have to work together more than ever.

*The strategic value of
Developer Communities and
Business Ecosystems is
enormous.“*

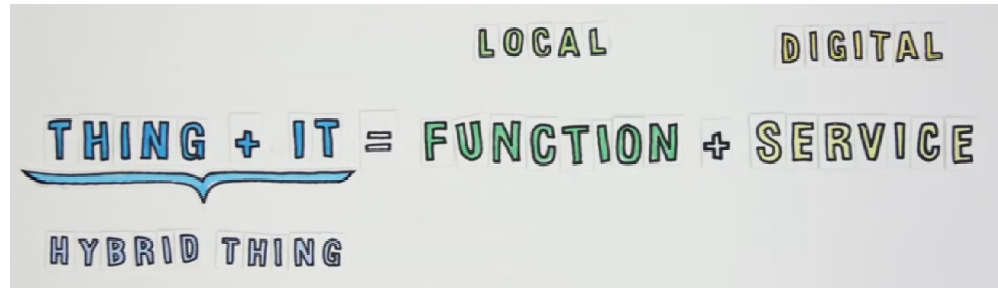
Internet of Things – Example Comfy

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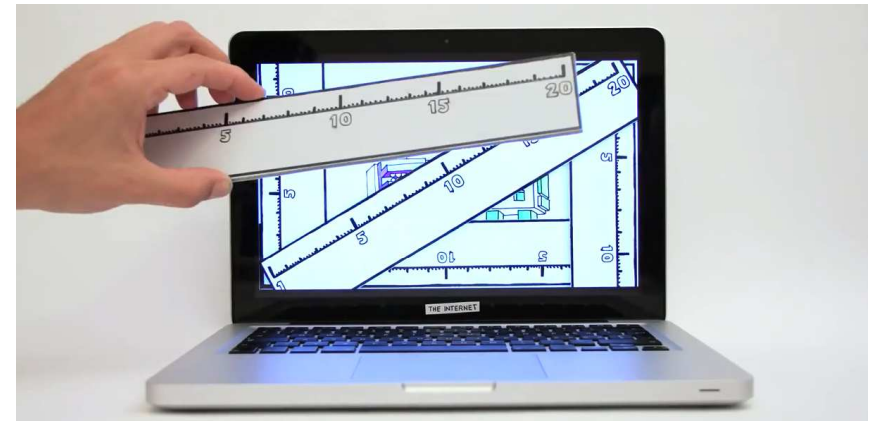


Business Models and the Internet of Things

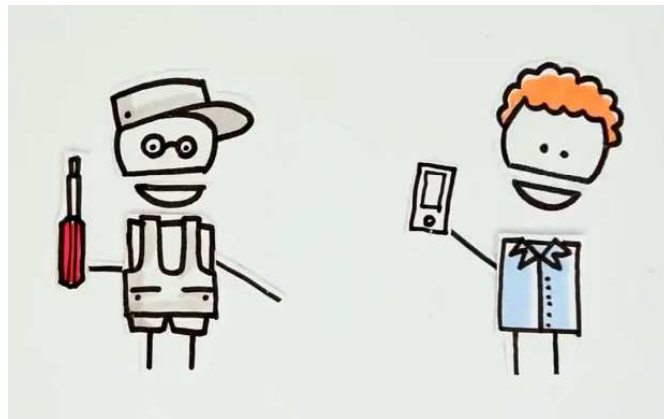
Wrap-up



Digitally Charged Products



High Resolution Management



Value Stack - Capabilities



Ecosystems – Developer Communities

Thanks for Your Attention!

Your Questions



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