



THE FOURTH INDUSTRIAL REVOLUTION

Steve Collinge - Managing Director IRG

Our Mission



'Delivering a competitive advantage through
Insight, Intelligence & Ideas
for the Home Improvement Industry'

The Fourth Industrial Revolution

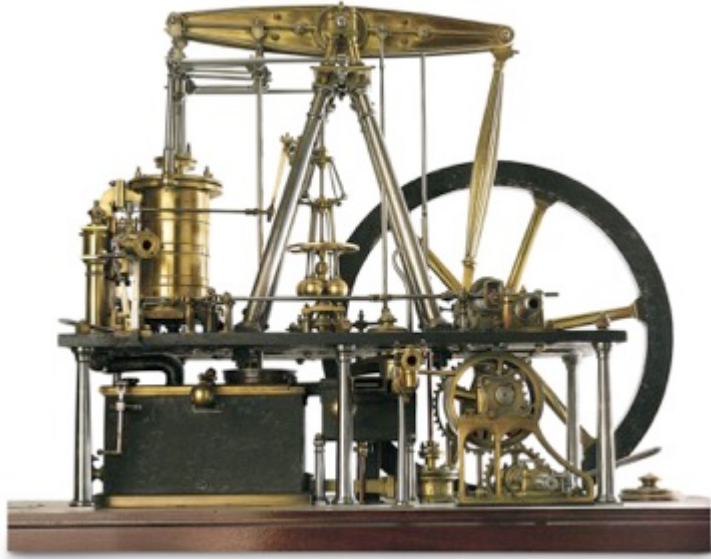


- Industrial Revolution - definition.
- A short history lesson.
- What happened in 2007?
- Professor Klaus Schwab.
- Characteristics of the Fourth Industrial Revolution.
- Home Improvement industry – impact so far.
- What can we learn from Home Depot?
- What role are we playing?

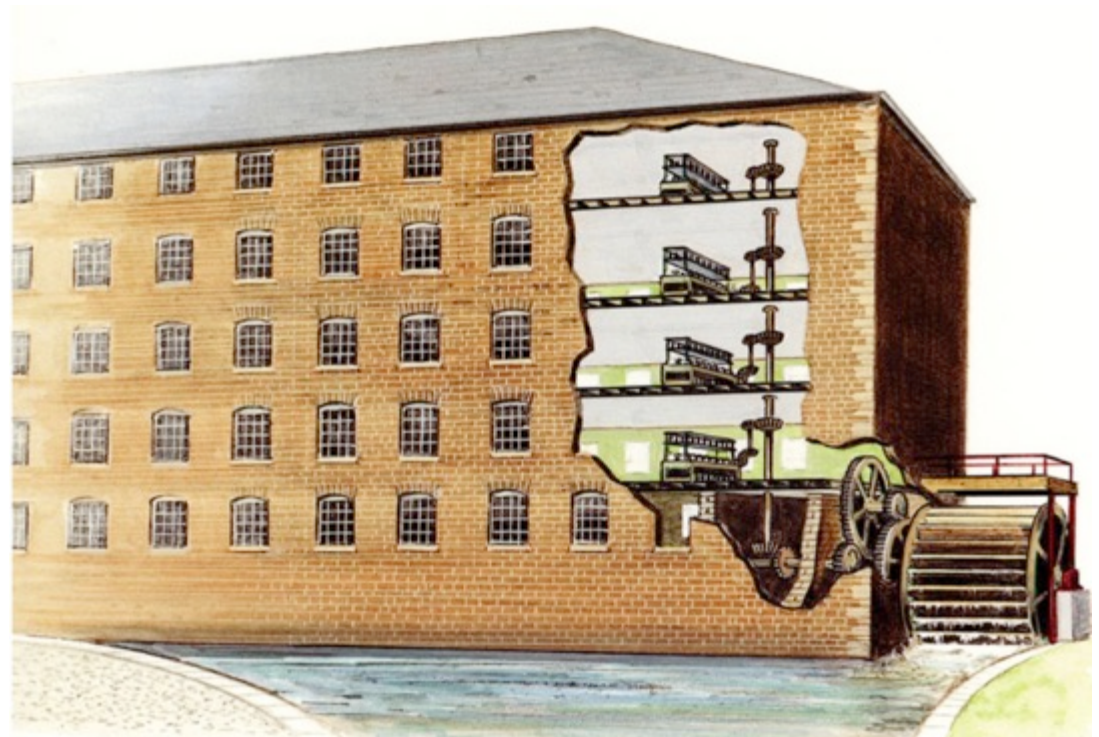
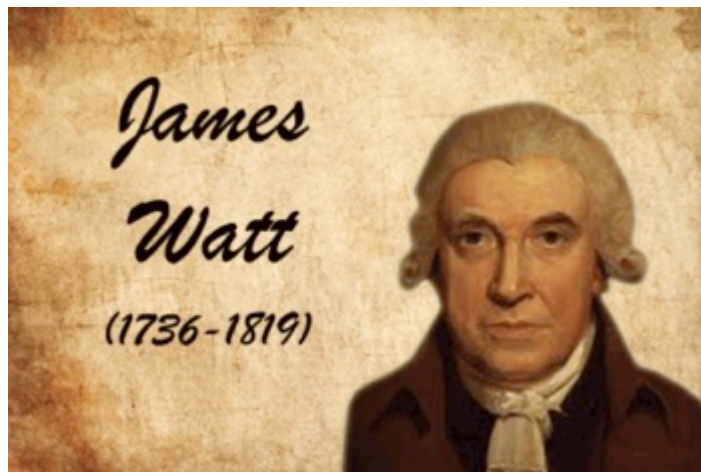


“Unprecedented technological and economic development that causes a rapid, major change in an economy, marked by the general introduction of new and innovative technology or by an important change in the prevailing types and methods of manufacture or supply”.

Industrial Revolution No.1 – 1760 to 1840



The Mechanical Revolution - introduction of mechanization, water & steam power and the shift to mass production.



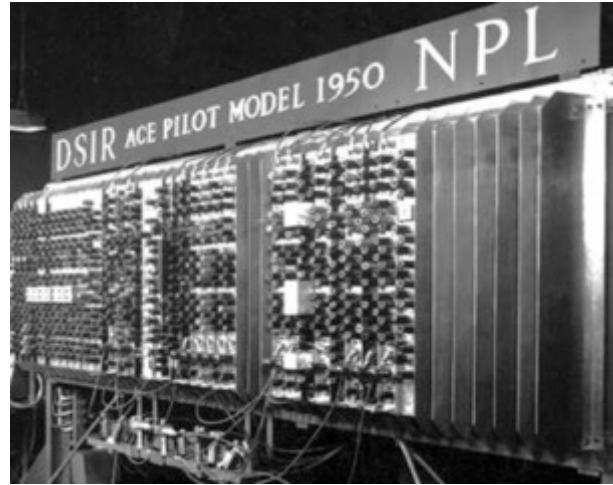
Industrial Revolution No.2 – 1890 to 1930

The Electrical Revolution - move to electrically powered mass production, the division of labour and the dramatic improvement in transport and communication.



Industrial Revolution No.3 – 1950 to 2010

The Digital Revolution – rapid advances in communication and new ways of generating, processing, sharing and storing information.



What happened in 2007?



How many industries and products were disrupted by the smart phone?

- Non-smart phones Blackberry/ Nokia.
- Digital cameras.
- Video cameras.
- Alarm clocks/watches.
- Torches.
- Calculators.
- Paper maps.
- Calendars, note pads and post it notes.

Industrial Revolution 4.0 – 2012 to



Professor Klaus Schwab

German engineer and economist, founder and Executive Chairman of the World Economic Forum.

At the Forum in January 2016 Klaus coined the phrase 'Industrial Revolution 4.0'



Industrial Revolution 4.0 – 2012 to



“We are at the beginning of a revolution that is fundamentally changing the way we live, work, and relate to one another. In its scale, scope and complexity, the fourth industrial revolution is unlike anything humankind has experienced before.

We are witnessing profound shifts across all industries, marked by the emergence of new business models, the disruption of incumbents and the reshaping of production, consumption, transportation and delivery systems.

The changes are so profound that, from the perspective of human history, there has never been a time of greater promise or potential peril.

Professor Klaus Schwab 2016

Profound Industry Shift - Network Disrupters



It's not the strongest who survive



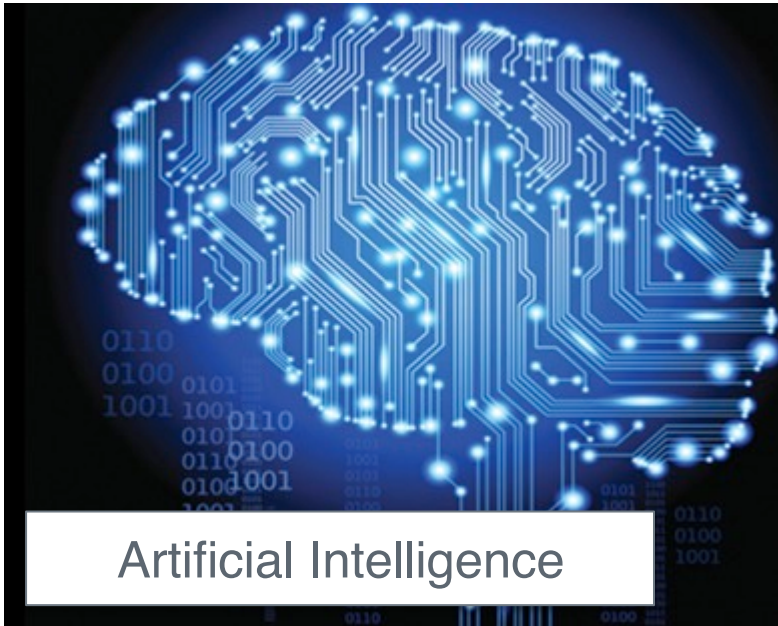
52% of the Fortune 500 firms listed
in 2000 have now gone.

Out innovated
Unable to simplify
Unable to adapt their business models

*"It is not the strongest of the species that
survives, nor the most intelligent, but the
ones most responsive to change".*

Charles Darwin

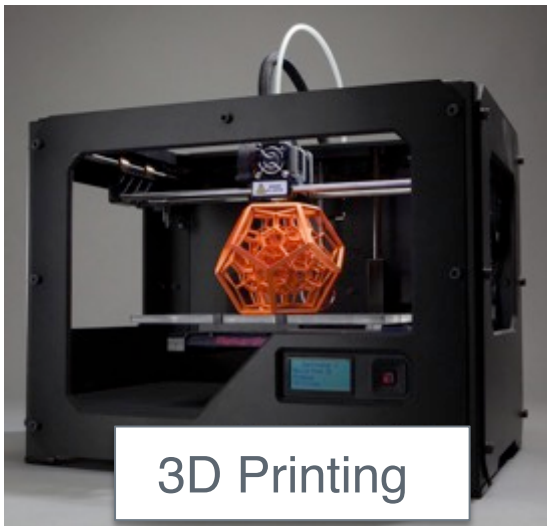
Characteristics of 4.0 – Cyber Physical Revolution



Artificial Intelligence



Driverless Vehicles



3D Printing

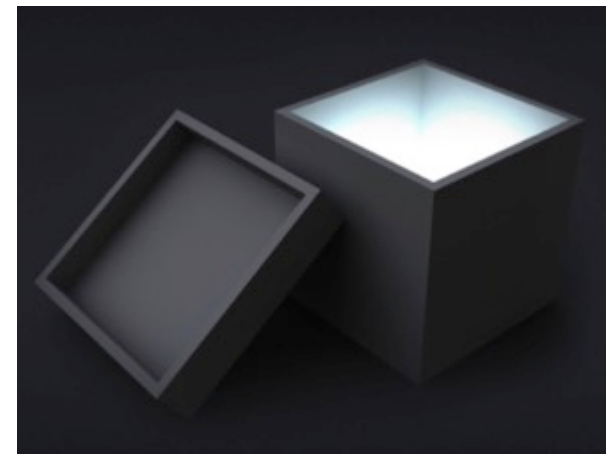


Cloud Computing

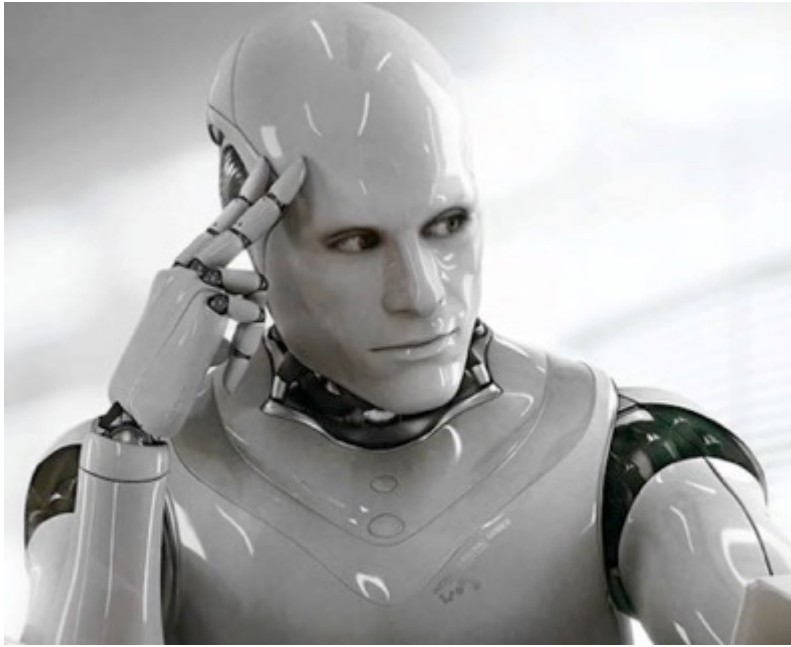
The O'Reilly Artificial Intelligence Conference



What is produced by machine learning is not code, but more or less a black box – you can peek in a little bit, we have some idea of what's going on, but not a complete idea'.



Artificial Intelligence



One in three believe that the rise of artificial intelligence is a threat to humanity

Lonely men are increasingly turning to Siri for love and 'sexually explicit' chat

I ♥ Siri

Driverless Vehicles & Drones

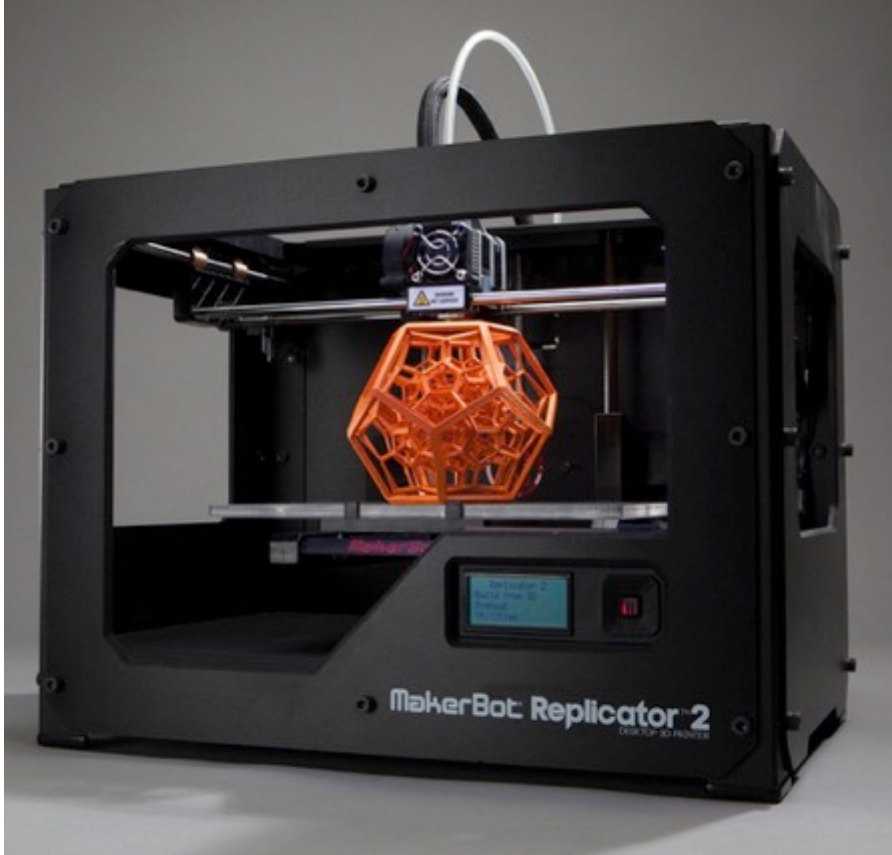


Amazon drones are reportedly being tested at multiple UK sites

Driverless lorry convoys to be trialled in the UK

Freightliner unveils the first road-legal self-driving truck

3D Printing



“In 20 years goods which are currently produced centrally in densely populated areas, will be produced on location via 3D printers.

Simple things at home and more complex items in 3D printing picked up in stores you send your files to.

This means that the cost of delivery evaporates, as does time constraints, because now we are simply selling and moving files across the internet to make physical things.”

Steve Sammartino – Futurist & author of The Great Fragmentation.

In May 2016, Computer Weekly.com estimated the market for 3D printing at \$5bn and it is predicted to grow eightfold in the next four years – with most of that growth in the enterprise and industrial markets.

Big Data & Cloud Computing



Big Data is being transformed into meaningful information to meet business objectives.

Big data will be the driving force behind the fourth industrial revolution.

Companies now have better means to organise, analyse and seek the real value of their Big Data as Cloud Computing offers a flexible and affordable way to support business operations.

Cloud computing is essential to support the Internet of Things.



The Internet of Things




- The 'Internet of Things' is the concept that anything with an on/off switch can be connected to the internet and to each other.
- The rule for the future is anything that can be connected, will be connected.
- There's a perfect storm of an increase in the number of products being developed with wi-fi and sensors, whilst connectivity costs are decreasing and smart phone penetration continues to rise.

By 2020 there's likely to be between 26 billion and 100 billion connected devices globally.

The relationships will be people to people, people to things and things to things.

The amount of data for companies to store, track and analyse, will be 100 x what is available today.

Information security will become an increasingly important topic.



Is this really going to
impact our industry?

A period of unprecedented change



Brand
Power



Retailer
Power



Consumer
Power



The brands decided which
retailers stocked their
products.



The retailers decided
which products to range
in their stores.



The consumer decides
where they want to
purchase products.

Impact on the Home Improvement Industry



In the UK store closures have replaced store openings



60 store closures announced in 2015



76 stores closed since 2011

Impact on the Home Improvement Industry



The number of new companies & retail competitors has grown substantially

amazon.com[®]

Ironmongery*Direct*

Better
bathrooms.com

 **LocksOnline.co.uk**
PREMIER SUPPLIER OF SECURITY PRODUCTS

ebay

VictoriaPlum.com

**Decorating
Warehouse**
Nationwide Decorating Supplies

Business Models are Shifting

Significant growth in new and smaller retail formats

SCREWFIX

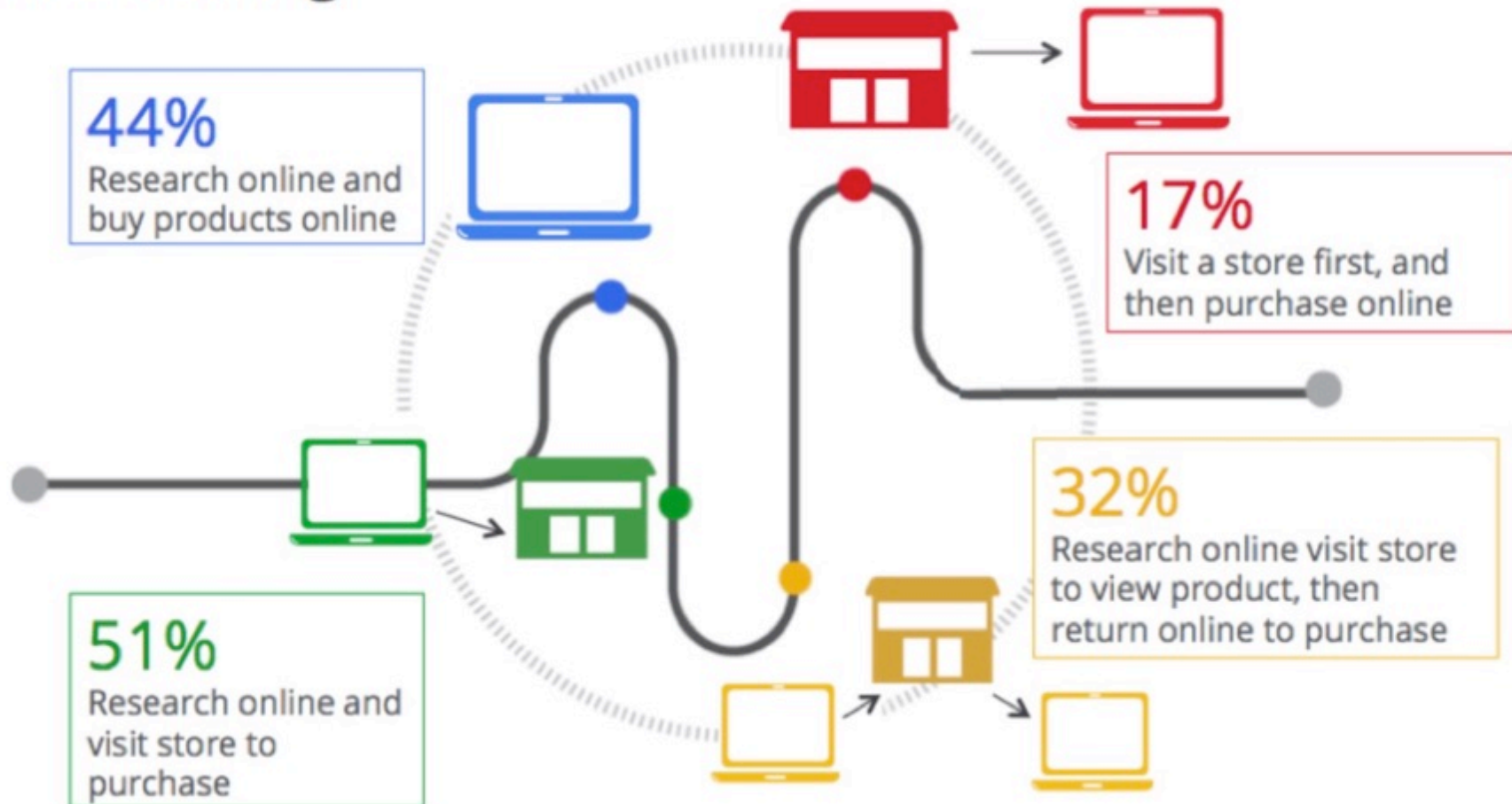


TOOLSTATION



Channels are becoming blurred

Lines between offline and online shopping experiences are blurring



New companies are entering the market



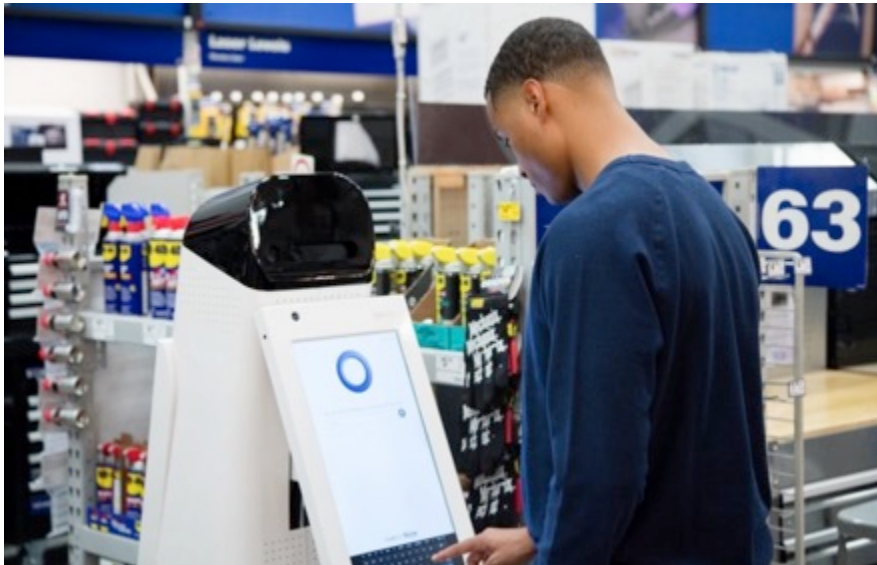
- On 28th October 2016, Tesla announced their move into the solar roof tile market.
- The tempered glass tiles are connected to the Tesla Power Wall which is charged by solar electricity and then powers your home and charges your car in the evening.



Source: Tesla

Companies are experimenting

- In the US, the Home Improvement chain Lowes are experimenting with in-store service initiatives, including the launch of their new 'LoweBot'.
- Trial in 11 US stores this Autumn.



THE HOME DEPOT

ENTER

ENTER

PLEASE TUCK A
SHOPPING CARD
BEFORE ENTERING.



Home Depot – ‘Interconnected Retail’

- E-commerce sales are now a key bright spot for Home Depot, reaching 6% of total sales in the most recent quarter.
- Stores are packed with computers from which shoppers can make purchases for products they can't find in-store.



Source: Home Depot Data

Home Depot – ‘Interconnected Retail’

- Store staff are trained to point customers to the in-store web-shopping kiosks if they can't find what they're looking for.
- Staff are also equipped with devices to enable them to quickly and easily check stock and place orders whilst standing with the customer.



Source: Home Depot Data

Home Depot – ‘Interconnected Retail’

- They reinforce their on-line business with their traditional stores and vice versa.
- E-commerce orders drive traffic to stores via click’n’collect.
- Store traffic drives online ordering – 10% of all Depot website traffic comes from within their stores.
- Home Depot believes that only 25% of its core range faces tough on-line price competition, including easy-to-ship items such as power drills and small hand tools.

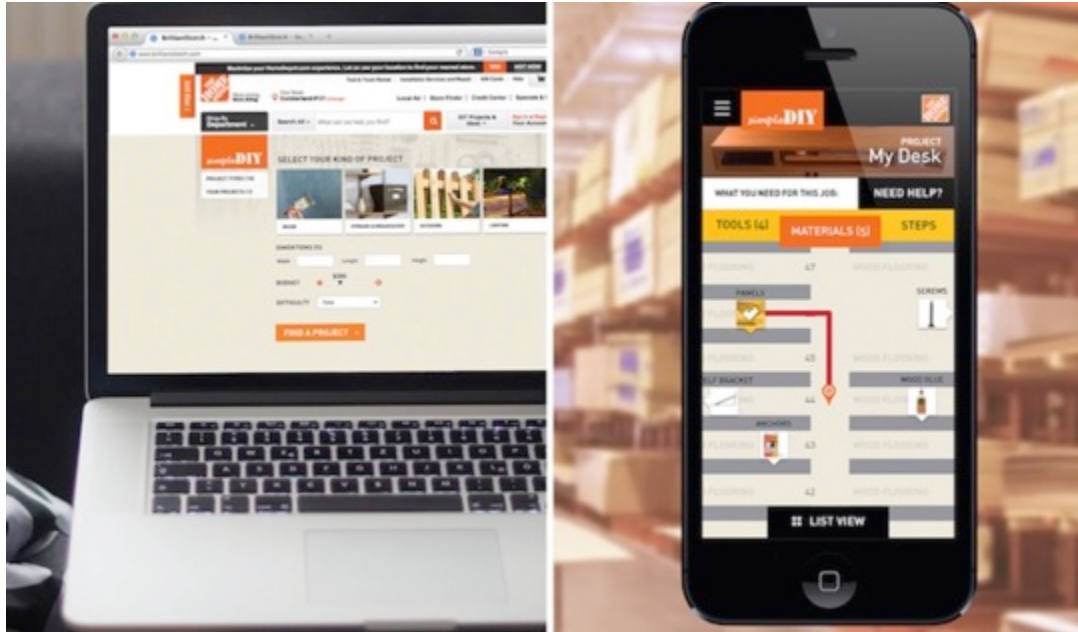


Home Depot 3D MakerBot Kiosks

- Home Depot has begun selling MakerBot Replicator 3D printers from 12 of its stores in California, Illinois and New York.
- The objective is to raise consumer awareness of 3D printing and allow consumers to play with the technology alongside help from store staff.



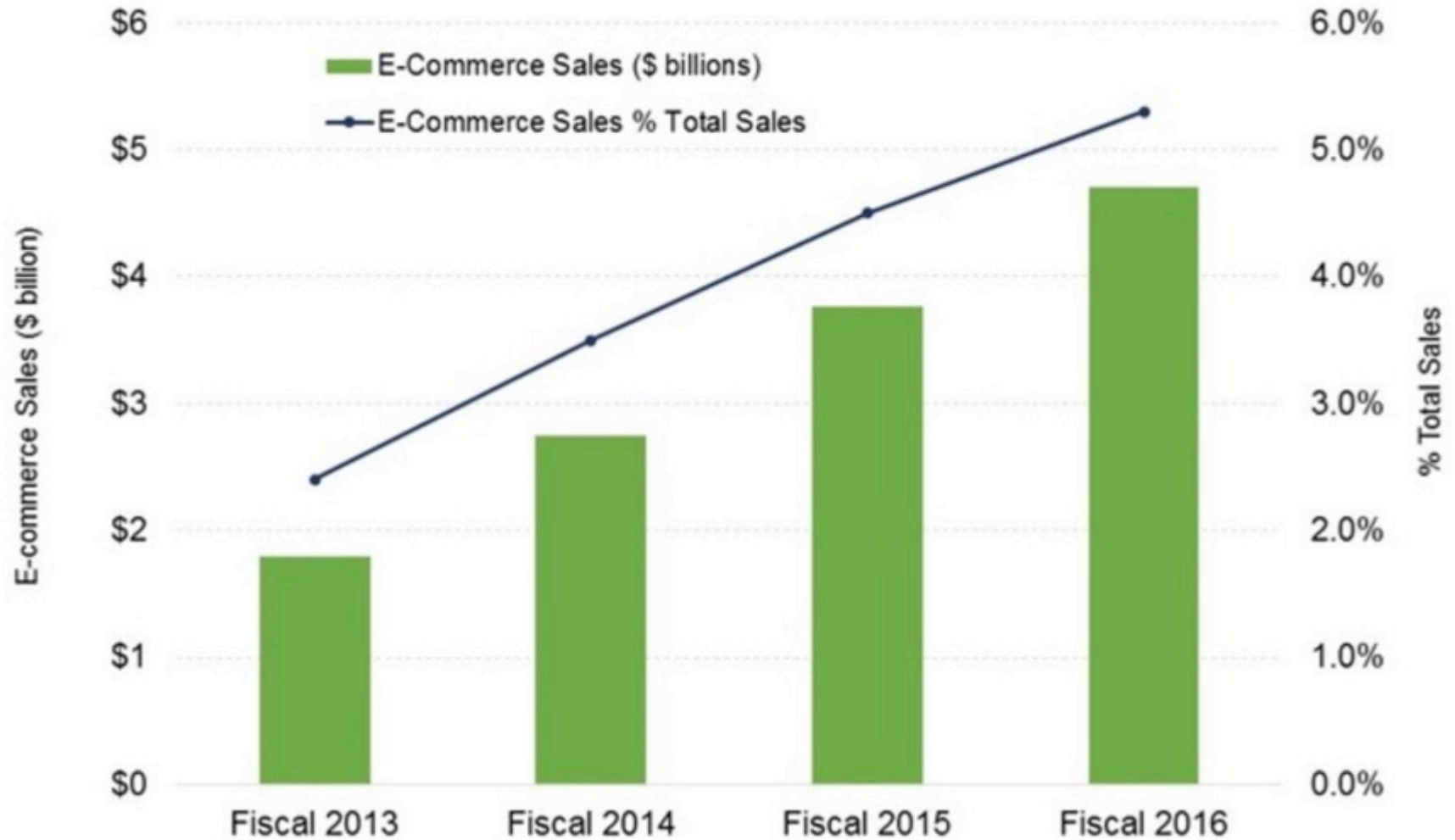
Home Depot 'Make DIY Simple'



- There have always been two fundamental issues with DIY: lack of experience and lack of space.
- With Home Depot's "Simple DIY," customers finally get their DIY journey started.
- On Home Depot.com the customer selects the app' and provides basic information about what they want to accomplish.
- Home Depot's wealth of knowledge will aggregate all information into a shopping list.
- Once at Home Depot, the user launches the app, and iBeacon technology highlights where those items are located when the user is in range.



Home Depot e-commerce sales growth



Source: Home Depot Data

What role are you playing?

What role are suppliers playing in IR 4.0?

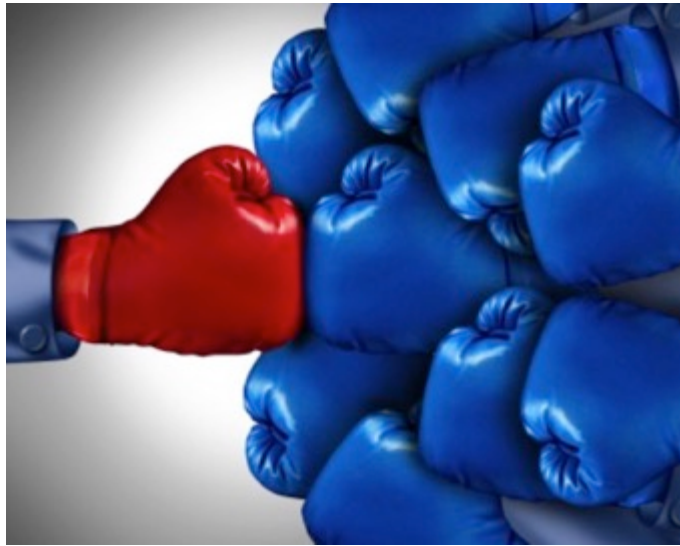
- Do you have someone in your business responsible for identifying relevant technological developments?
- When did you last run an innovation day with your commercial team?
- Have you run an innovation workshop with each of your key customers?
- What does your new product pipeline currently look like?
- What level of investment in new technology are you planning to make in 2017?



How can we help?



- Idea generation workshops



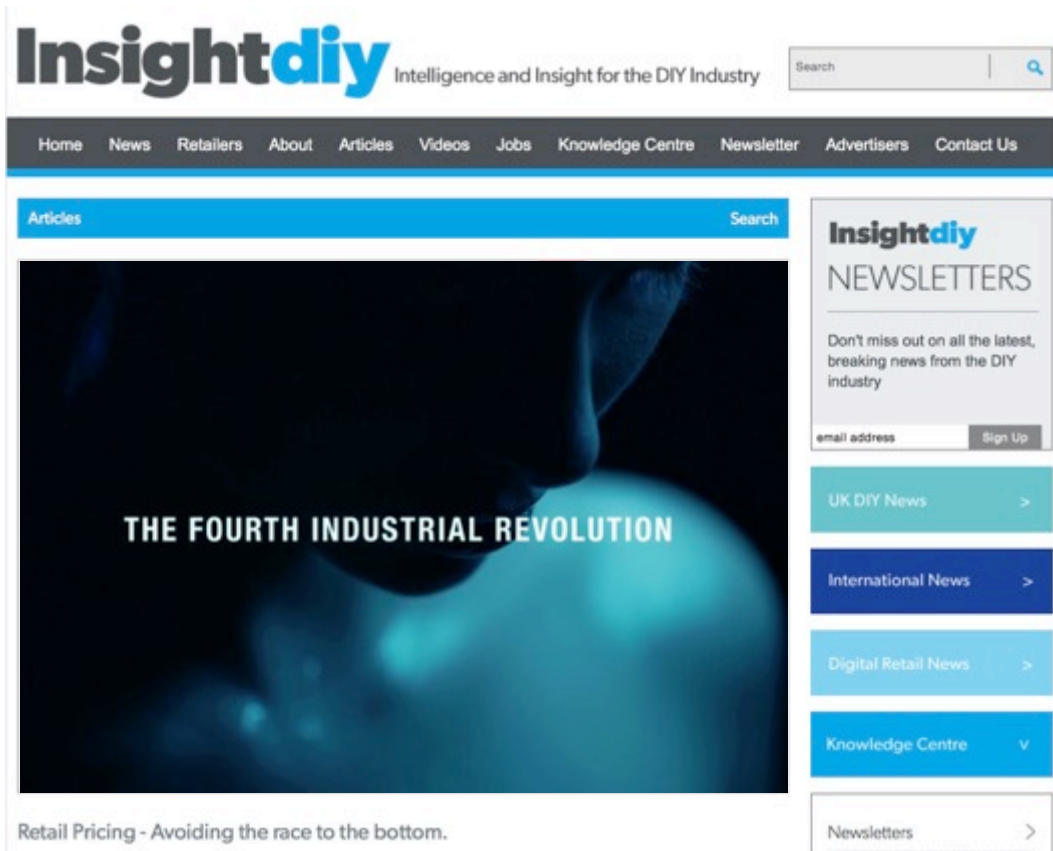
- Competitor research & analysis



- Conferences & Presentations

'Delivering a competitive advantage through
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Copy of todays presentation



- A copy of the presentation is available now on the Insight DIY website, or contact me at:-

Steve@irg.co.uk

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Delivering the very latest, breaking news, market intelligence, jobs, data, insight and commentary on the UK and global Home Improvement Industry.

Website

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Industry

Retail



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Intelligence and Insight for the DIY Industry



THE FOURTH INDUSTRIAL REVOLUTION

Thank you