

are we in
control?



THINKE

Digital Media Enterprise Strategies

Do you have one, do you need one?



Andy
Fawkes



- 2005 – Common Simulation Services Funding
 - Common Data
- 2008 – Simulation Strategy
 - Common Network and COTS
- 2010 – SDSR
 - Drive towards more Simulation
- 2012 – DTEC
 - From iPad to Simulator



Outline

**Learning
Technology
Trends**



Future?



**Your
Strategy?**



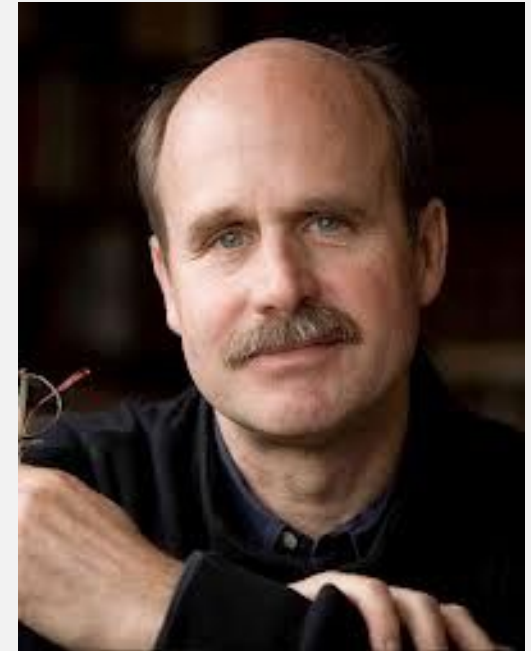
Converge - \kən-ˈvərj\



- come together from different directions so as eventually to meet
- (converge on/upon) come from different directions and meet at (a place)
- (of a number of things) gradually change so as to become similar or develop something in common

Paul Saffo and the 30 Year Rule – 1992 (TED2)

- The reason life feels so much more rapid today is not that individual technologies are accelerating at a faster rate or that things are happening more quickly than they have in the past.
- What's actually occurring is that more technologies are coming up at the same time.
- It is the unexpected cross-impact of maturing technologies that creates the powerful acceleration that we all feel.
- Cross-impacts are also the variables that make new media forecasting so difficult.



Learning Technology Trends



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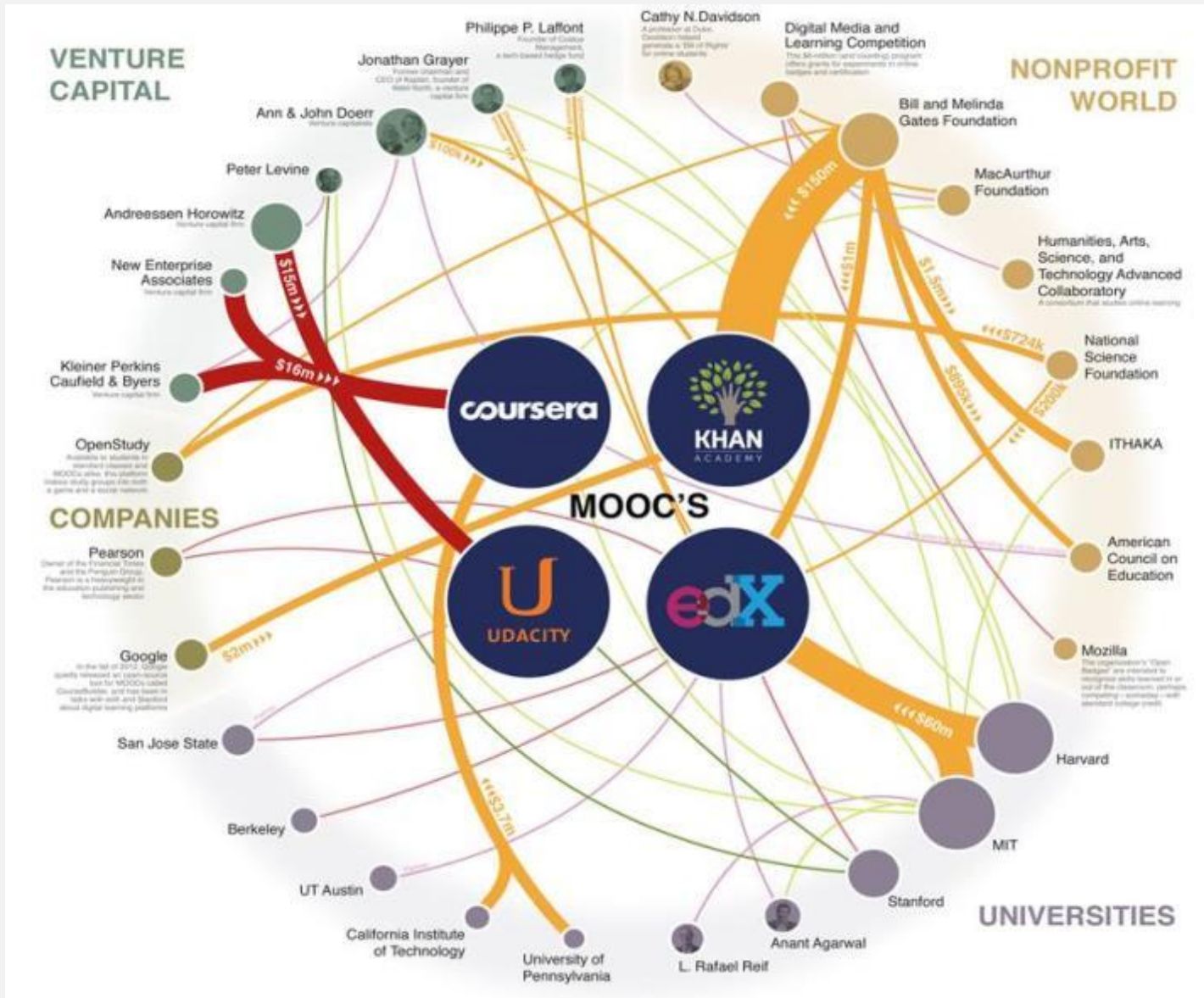
What Happens in an Internet Minute?



And Future Growth is Staggering



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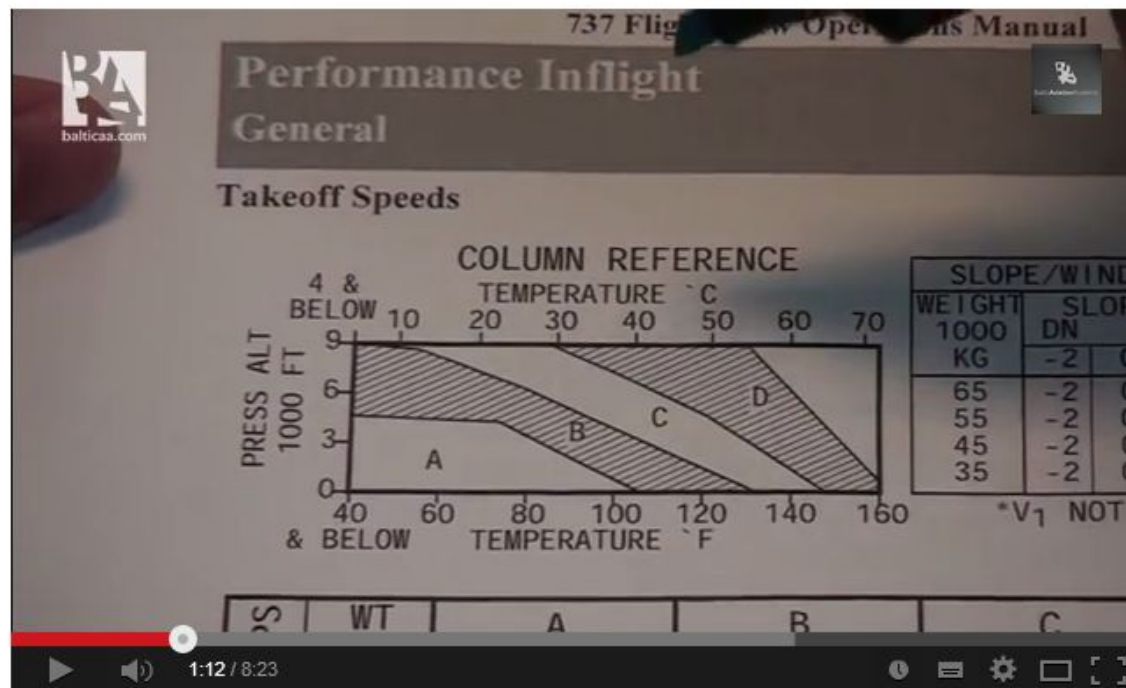
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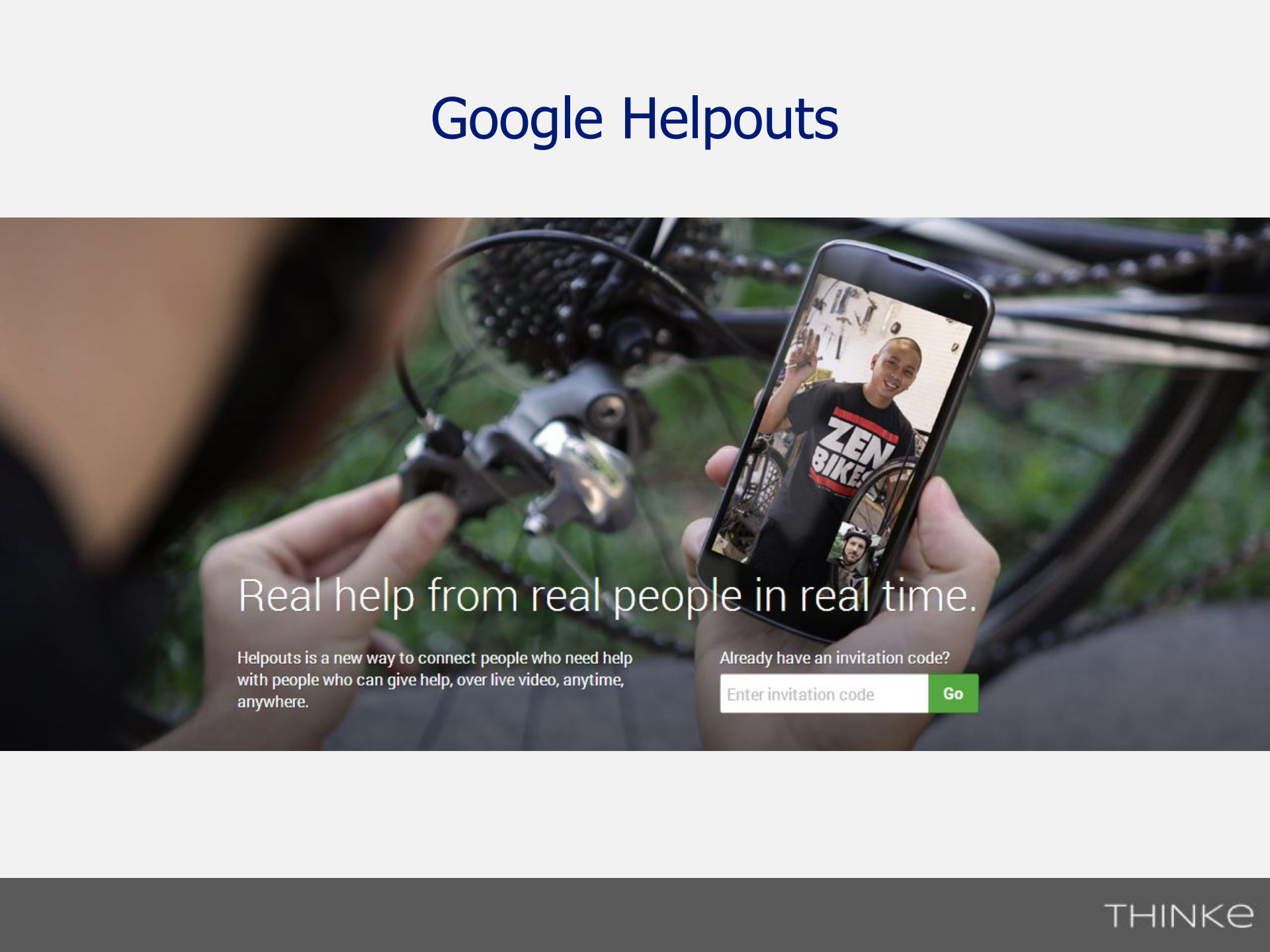
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Published on 8 Mar 2013

<http://www.balticaa.com> This week Pranas Drulis, ATPL Integrated student at Baltic Aviation Academy, shows how to calculate the take-off (V₁, VR, V₂) speeds for a Boeing 737 and an Airbus A320.

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Games

Back to 2002

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BBC NEWS

You are in: UK: England
Thursday, 24 January, 2002, 18:06 GMT

War simulator unveiled



Soldiers sit inside a replica tank to use the simulator

One of the largest war simulators in the world has been unveiled by high-ranking officers from the British Army.

The £290m unit, at the Warminster army barracks in Wiltshire, can recreate a tank battle involving 1,000 armoured vehicles in virtual reality.

The army hope the training simulator will give British troops the edge over any enemy in combat.

The combined arms tactical trainer, CATT, is also designed to reduce the massive costs of live military exercises.

Training 'watershed'

The simulator can reproduce vast sections of terrain from Salisbury Plain and other regions across Western Europe.

BBC Wiltshire
WHERE I LIVE >>

Internet links:

- The British Army
- Defence Procurement Agency

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- Tories attack Brixton drugs scheme
- Police shoot man on the M6
- Leanne killer jailed for life
- IVF mix-up heads for court
- Inquiry into warship accident
- Britain 'sheltering al-Qaeda leader'
- Venables named Leeds boss
- Transplant first for cancer patient

Links to more England stories are at the foot of the page.

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BBC Weather

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BBC NEWS

You are in: Science/Nature
Thursday, 20 June, 2002, 13:58 GMT 14:58 UK

Troops in virtual combat



Up to eight soldiers can play together

The British Army is using a specially developed version of the celebrated computer game Half-Life to train its troops.

With the first-person shoot-em-up soldiers can try out new weapons and new tactics without encountering real bullets and bombs.

The Ministry of Defence hopes the system may help reinforce some of the lessons learned on more traditional training exercises.

Like the popular modification, or mod, of Half-Life known as Counterstrike, the army version allows up to eight soldiers to go into virtual combat at any one time.

See also:

- 24 Jan 02 | England War simulator unveiled
- 23 May 02 | New Media US military reveals computer game
- 21 Dec 01 | Reviews Half-Life revives for new generation

Internet links:

- QinetiQ

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- Fifth closest star discovered
- Mona Lisa smile secrets revealed
- The gene that maketh man?
- Gravity wave detector all set
- Robots get cheeky
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- Botox 'may cause new wrinkles'

Links to more Science/Nature stories are at the foot of the page.

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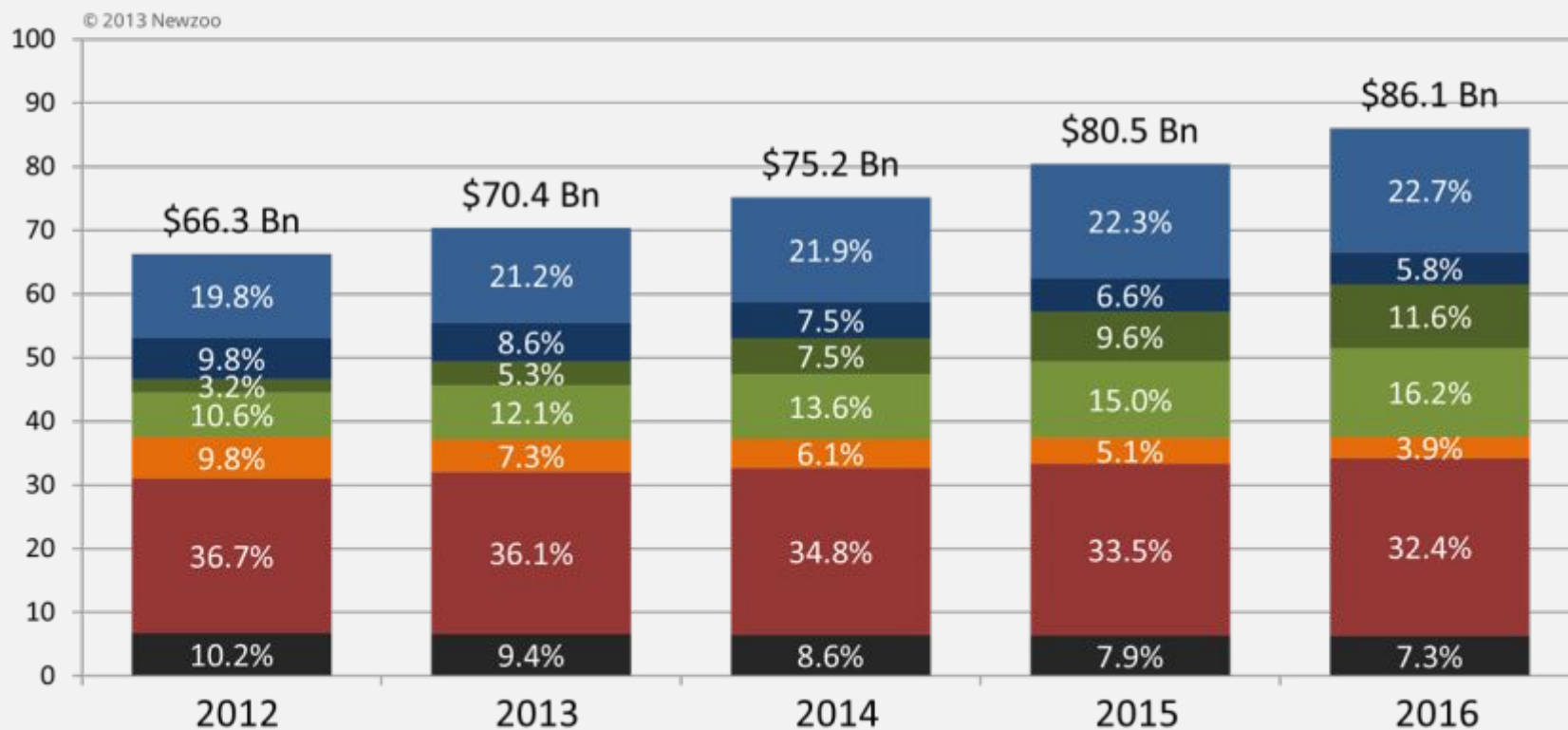
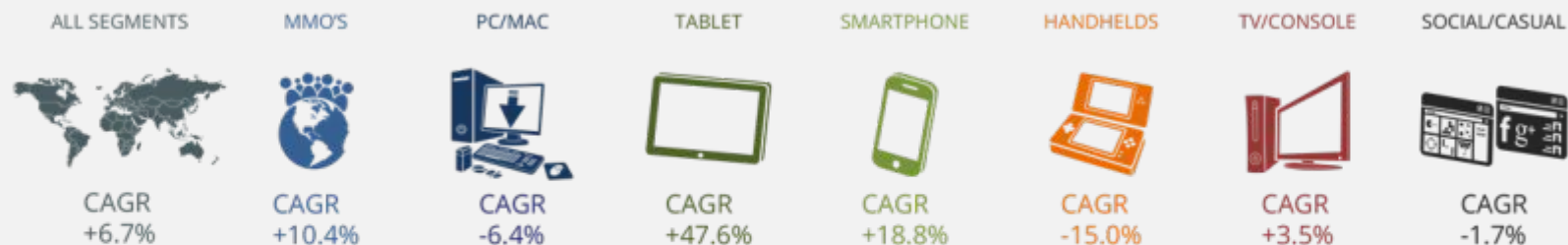
- Help

EDITIONS

- Change to World

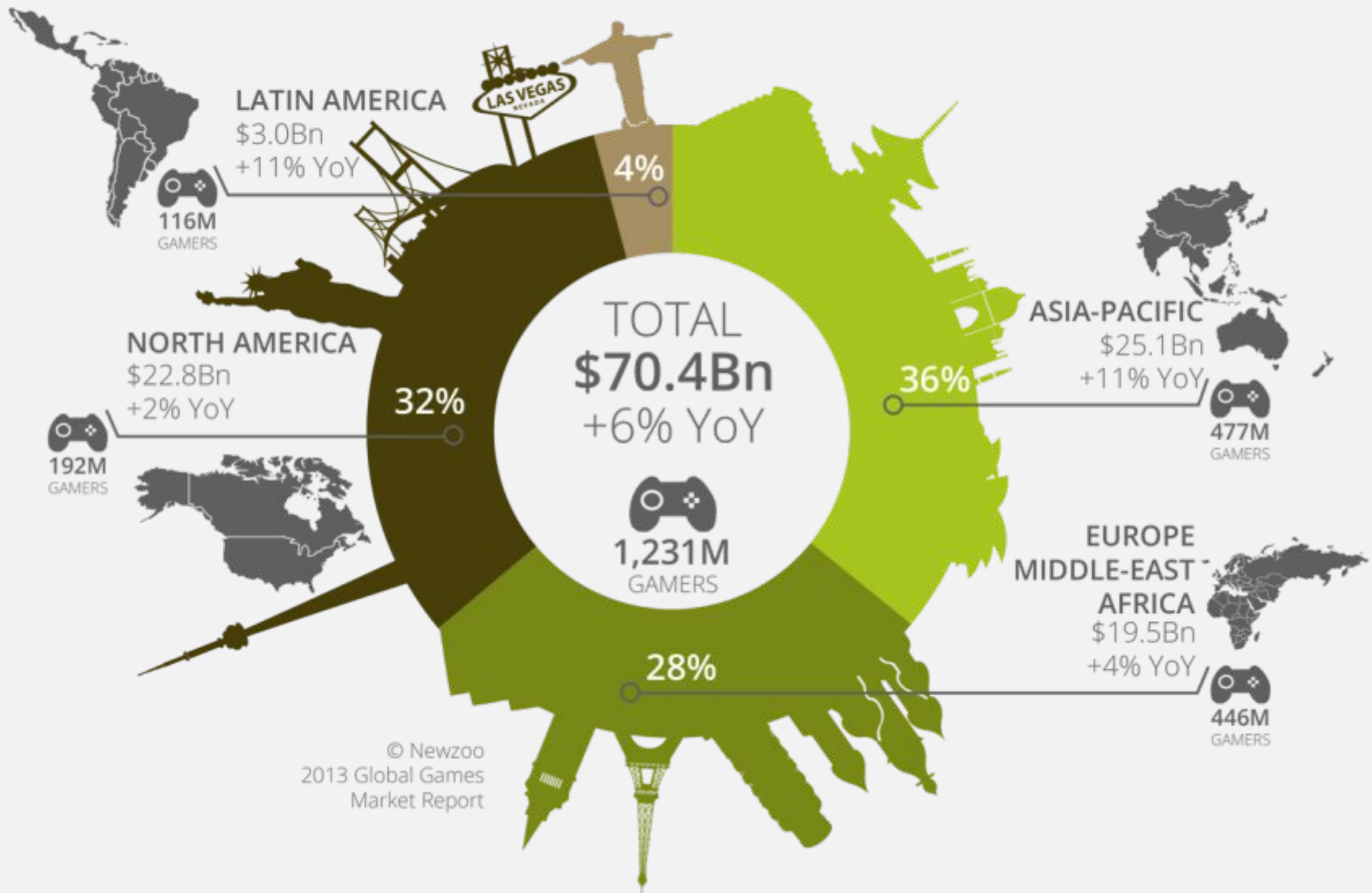
Obviously, being killed in the virtual world isn't quite so serious
Major Bruce Pennell

Global Games Market 2012 - 2016



Source: Newzoo, 2013 Global Games Market Report

The Global Games Market | Per Region | 2013E



Versatility of Modern Simulation Software



- Joint
 - E-Learning
 - Cultural Awareness & Language Training
 - Engineer Training
- Naval
 - Anti-Piracy & Boarding Operations Training
 - Maritime Submarine Training Capability
- Land
 - IED Training & Situational Awareness
 - Land Convoy Collective Training
 - Gunnery and Crew Training
 - Close Weapon Gunnery Training
 - Army Recruiting
- Air
 - Aviation Tactics Training
 - Fixed Wing Aviation Mission Training



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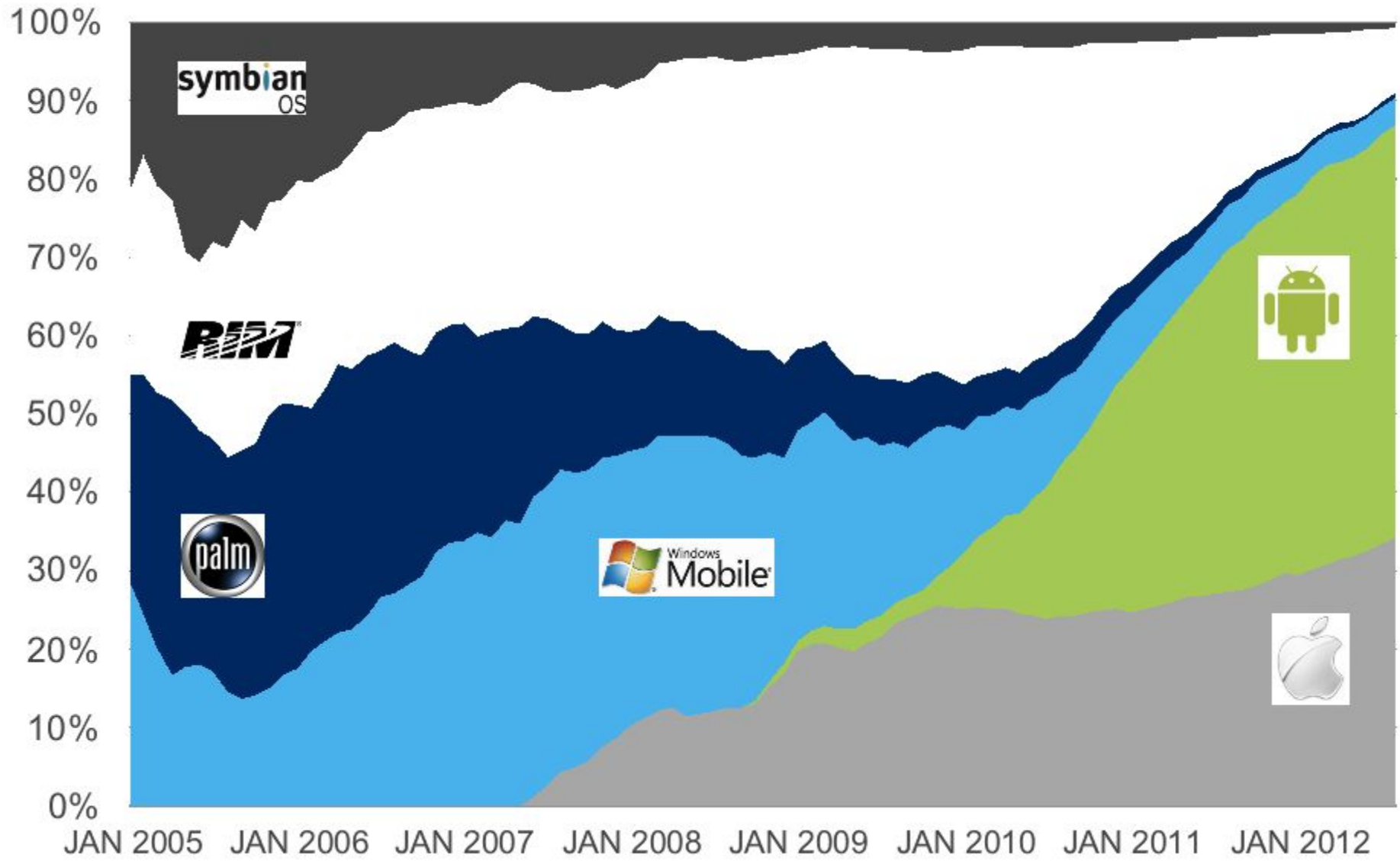
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<http://youtu.be/GDLU5Y8fmzk>

☐ Start at: 0:01

Pace of Change



On average, multinational companies have each produced

24 branded apps

In 2013



mobile devices will become the most common way to access the web



Of the 7 billion people in the world,

4 billion

use a mobile phone while **3.5 billion** own a toothbrush



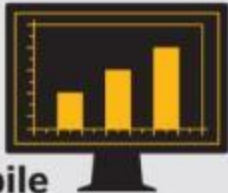
51%

of mobile subscribers in the UK own a smartphone and 74% of them use it when shopping

There was an

89%

increase in mobile data usage between 2010 and 2011



86%

of mobile internet users go online while they're watching TV



91%

of people have their mobile phone within arm's reach 24/7



Knowledge in Your Hands





Source - iPad in Real Life: Erik Hess, F-5N Tiger II Pilot

US Air Force expects to save \$50M with use of 18K Apple iPads

By Neil Hughes

The purchase of 18,000 iPads for use as electronic flight bags has set the stage for the U.S. Air Force to save more than \$50 million over the next 10 years.



Apple iPad in use by the Air Force Air Mobility Command. Photo credit: James Rogers of *The Street*.

Using lightweight iPads instead of heavy paper flight manuals will amount to \$750,000 annual savings on fuel alone, a spokesman for the Air Force's Air Mobility Command said in an [interview with James Rogers of *The Street*](#). And the AMC will no longer have to print those flight manuals either, which will save a whopping \$5 million per year.

Easier to Assess Value?

Sensors



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M2M World of Connected Services

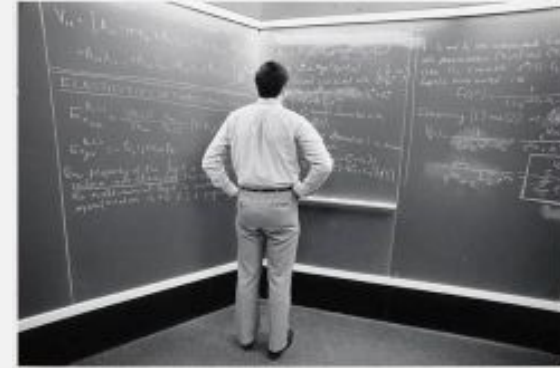
The Internet of Things



Future?



Already Travelled Far



Remote Interaction





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Augmented Reality

Augmented Reality – 2008

- US Pilot in Flight Simulator
- Transatlantic Connection
- UK Soldier on Salisbury Plain with Augmented Reality Sight
- Virtual Bombs landing on Real Terrain





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VOGUE

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Convergence with other Sectors

Autonomy ↔ Simulation

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http://youtu.be/C7Va_5Tm8Kk Start at: 0:26

Driverless cars: Humans are terrible drivers, computers only have to be less terrible

Excellent article from [Burkhard Bilger at The New Yorker](#)

“

Human beings make terrible drivers. They talk on the phone and run red lights, signal to the left and turn to the right. They drink too much beer and plow into trees or veer into traffic as they swat at their kids. They have blind spots, leg cramps, seizures, and heart attacks. They rubberneck, hotdog, and take pity on turtles, cause fender benders, pileups, and head-on collisions. They nod off at the wheel, wrestle with maps, fiddle with knobs, have marital spats, take the curve too late, take the curve too hard, spill coffee in their laps, and flip over their cars. Of the ten million accidents that Americans are in every year, nine and a half million are their own damn fault.



*The Google car knows every turn. It never gets drowsy or distracted, or wonders who has the right-of-way.
Illustration by Harry Campbell.*

The Need to Train?



Simulation ↔ Command and Control





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Your Strategy?



Digital Revolution

A Golden Era for Training and Education?

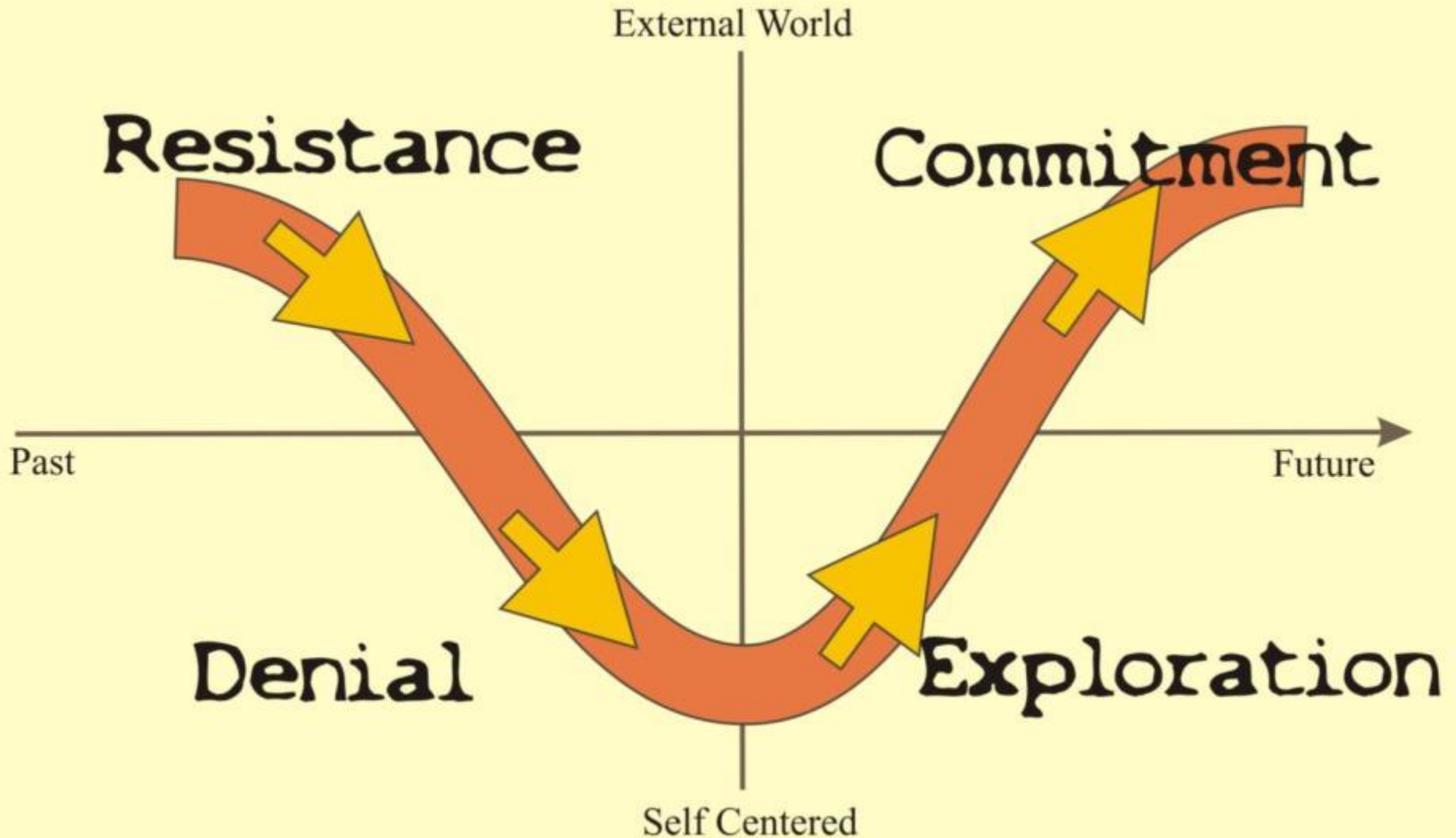
- learn
- discover
- practice
- explore
- collaborate
- connect
- test
- measure
- analyse



Technology Change



Personal Change



Putting Technology in Perspective



Your age

0

5

10

15

20

25

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2013

2008

2003

1998

1993

1988

1983

1978

1973

1968

1963

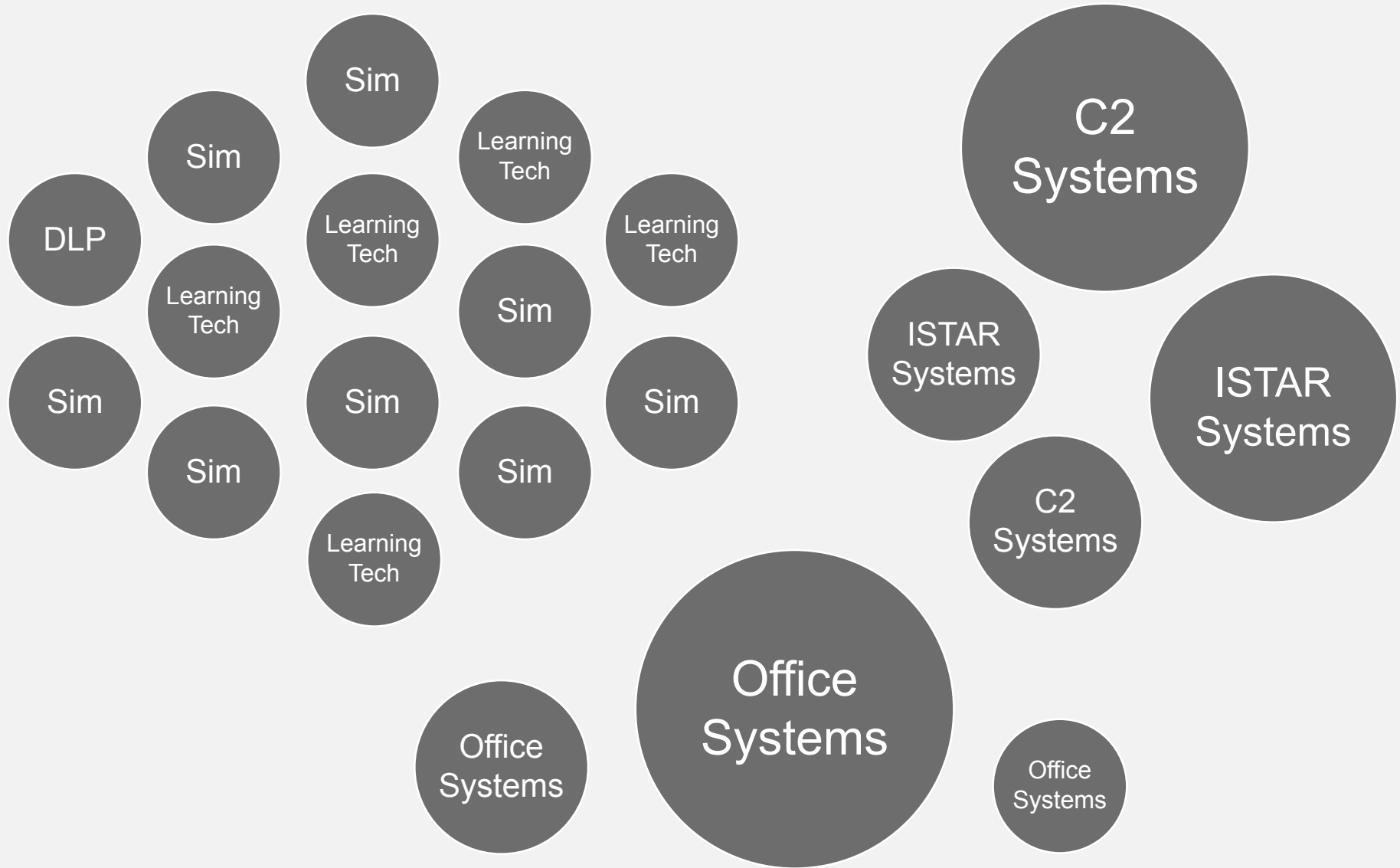
1958

1953

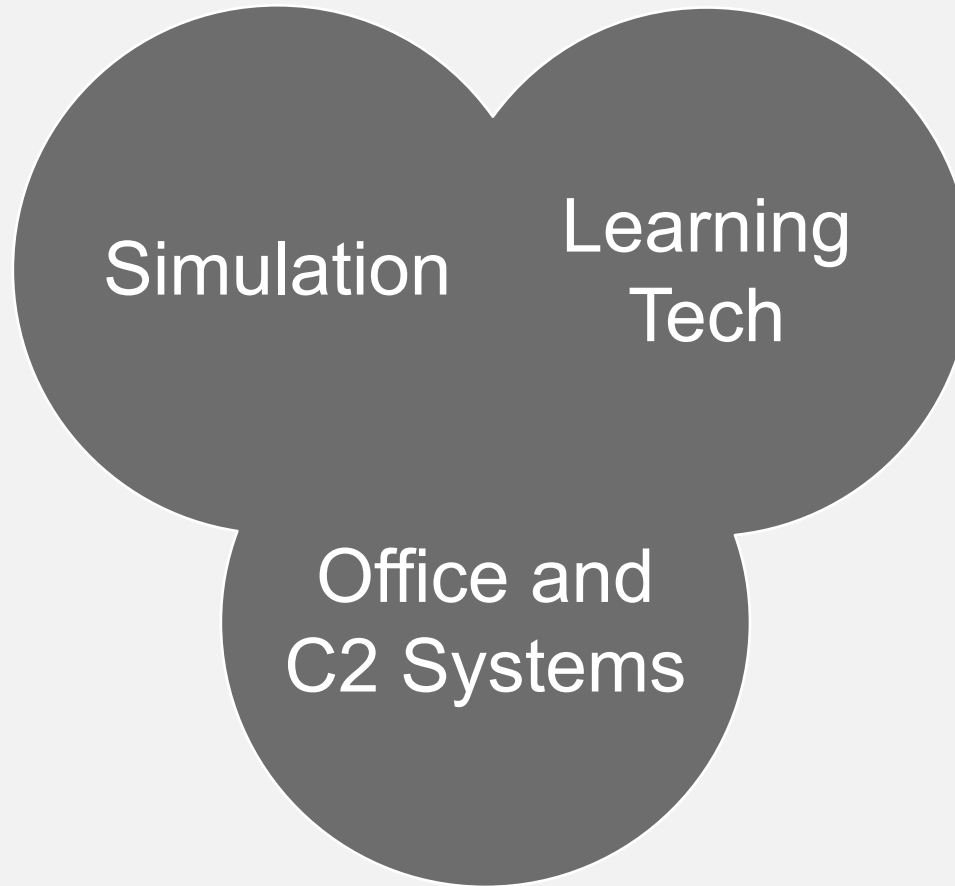
Organisational Realities



Organisational Boundaries



Convergence?

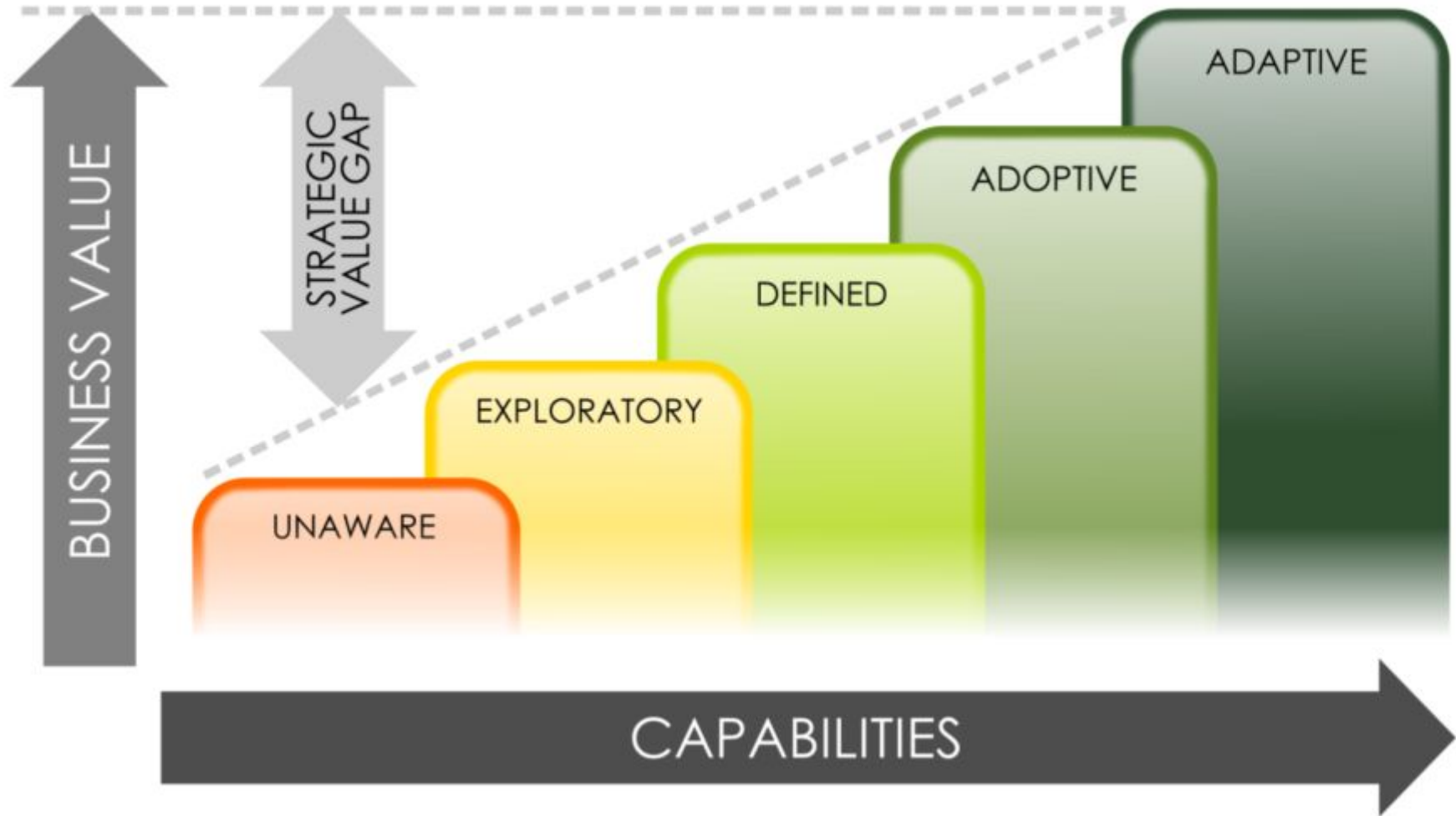


Digital Media Enterprise Strategies

Do you have one, do you need one?



Assess Technology Maturity



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Training & Education Capability Operating Model

Organisation Integration	<u>Co-ordination</u> • Diverse Software, Shared Data & Network	<u>Unification</u> • Single Infrastructure and Services
	<u>Diversification</u> • Diverse Software, no Data Sharing & Network	<u>Replication</u> • Similar Software, no Data Sharing & Network
Organisation Standardisation		

Training & Education Capability Operating Model

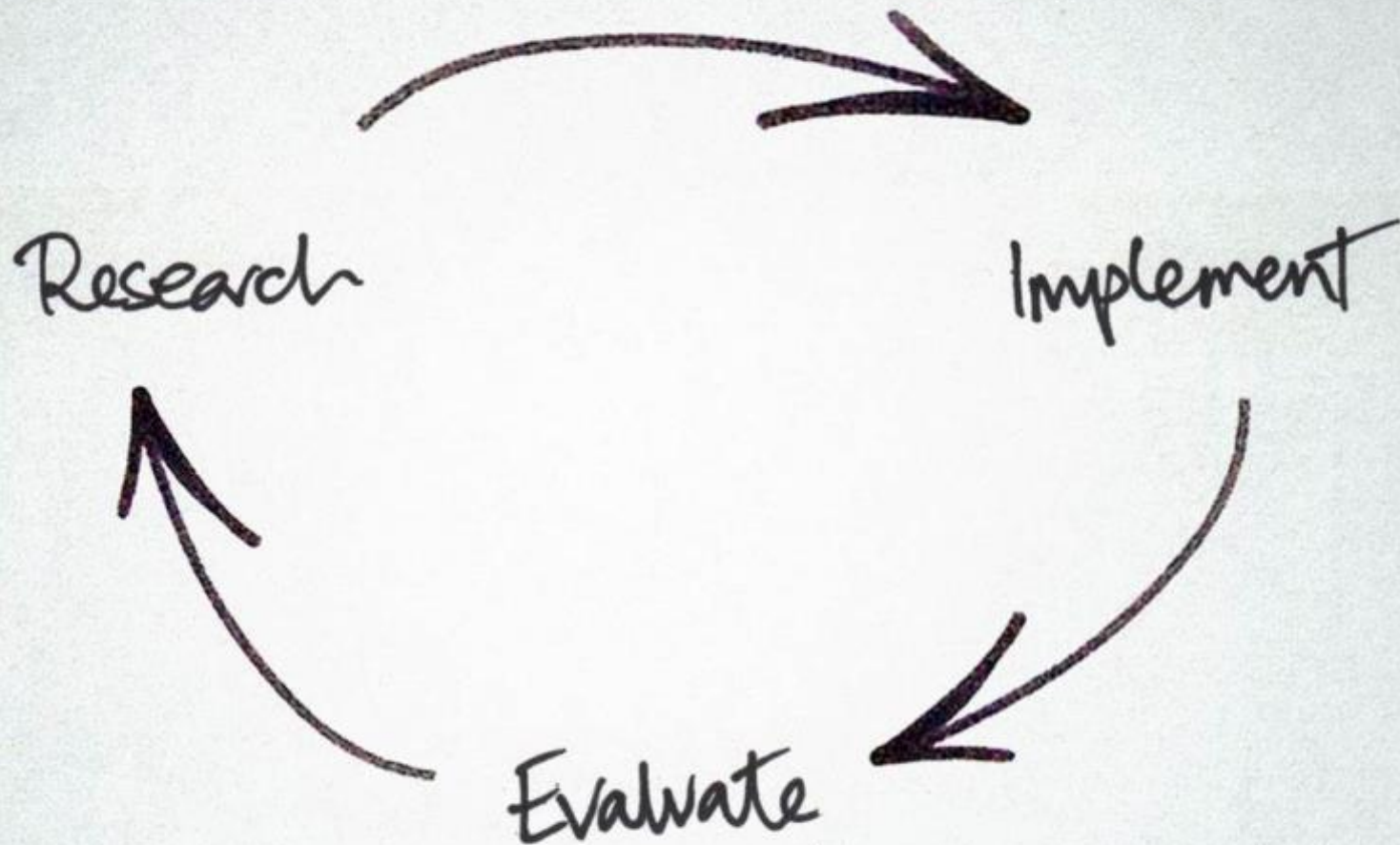
Organisation Integration



Organisation Standardisation

Your Strategy?

- Agree Strategic Drivers
 - Cost?
 - Regulation?
- Explore Technologies with User
 - Continuous Market Research embracing all Sectors
 - Experimentation
- Decide Enterprise Strategy
 - Match Technology Maturity with Degree of Control and Standardisation
 - Balance of Investment across all Training and Education Technologies
- Evaluate and Adapt!



Meeting the User's Need!

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Questions

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