Financial return on digitalisation – **WTF?**

Dr Rob Wray
CIO, HACT

HACT
ideas and innovation in housing

Digital transformation – **Realising the returns**

Dr Rob Wray
CIO, HACT

HACT
ideas and innovation in housing

90%

0.5%

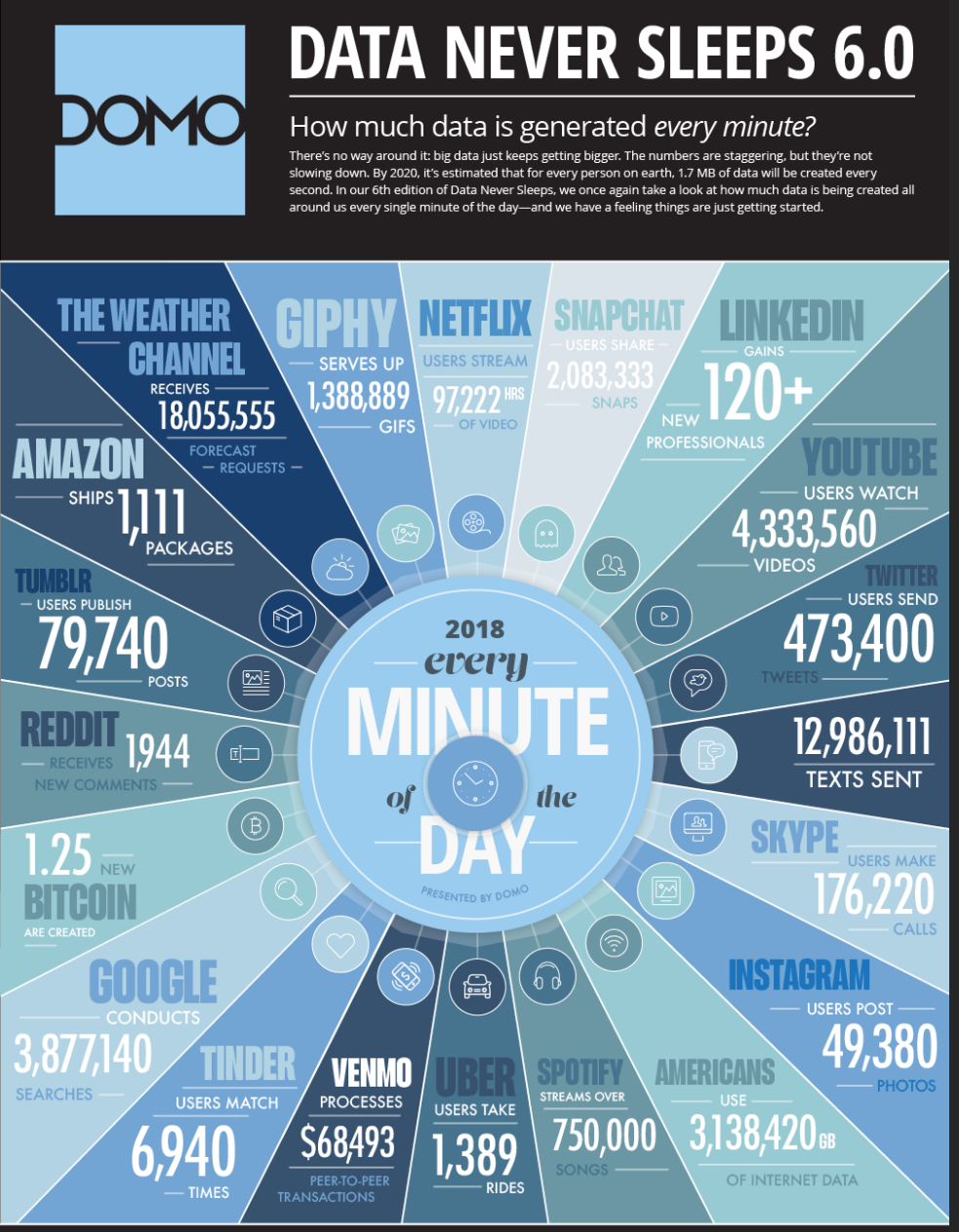
33%

94%

60%

25%

HACT



Perfect storm

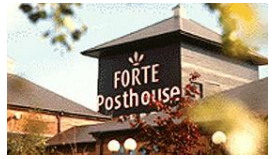
Opportunity or risk

Consumerization

Fixing the foundations

Agile or elephant

The future is….. now

	Transport & Accommodation	Leisure	Shopping	Banking & Utilities	Employment & Enterprise
2010		SKY MOVIES Pizza Hut NO ONE OUTPIZZAS THE HUT	TESCO WOOLWORTHS	HSBC	
2020	UBER airbnb	NETFLIX JUST EAT	TESCO direct amazon Prime		Office 365

SIRI amazon alexa works with the Google Assistant

HACT

	From	*To*
1	Business to consumer	Person to person economy
2	Periodic fixed intervals	On-demand
3	You go to it	It comes to you
4	Generic	Highly personalized
5	Location centric	Location agnostic
6	Structured, segmented & siloed	Blended, blurred & multi-skilled
7	Fixed engagement and interactions	Multiple channels and interfaces

HACT and the “Big Data” journey

In 2013, HACT launched a ‘Big Data’ project…

HACT
UK housing data standard
(powered by OSCRE)

HACT
ideas and innovation in housing

OSCRE

accent · acis group · Arawak Walton Housing Association · Bolton at Home · Bromford. · Catalyst · CHP Creating homes shaping places · Clanmil Housing Group · Coastline housing

EQUITY Housing Group · ForViva · golding homes · great places Housing Group · Hackney · Halton Housing · hanover · Hyde · irwell valley homes

Jigsaw · johnnie johnson HOUSING living longer, living better · L&Q · Lewisham Homes · Linc · Magna Housing · Metropolitan Thames Valley · msv mosscare st vincent's · Northwards Housing North Manchester's Council Homes

one manchester · OPTIVO · orbit · origin HOUSING · HARCA · Riverside · settle · SYHA South Yorkshire Housing Association · together Housing Group

Trafford Housing Trust · Tai Wales & West Housing · waterloo housing group · wm housing group · Wythenshawe Community Housing Group · Yorkshire Coast Homes · YORKSHIRE HOUSING · Aareon · Hitachi Solutions

HouseMark · iPROPERTY .CLOUD · Manifest software solutions · m3 · PiLON · SDS · Semarchy · UNBOXED · VerseOneGroup

Looking ahead: 6 Ways Technology is changing social housing development, resident experience and staff experience

- Digital management of sites from design and build through to maintenance and management
- Increase in digitisation of interaction with residents
- Wants/needs will be predicted before residents realise them
- Technology will take an active role in improving health
- Enhanced management and use of data generated by citizens and connect devices
- Multi-skilled staff expect to interact with data & technology to do their work in a blended and location agnostic way

Technology is powering the shift.

Data is the oil of the technology engine.

Innovating: Design & Construction

- Use **AR/VR** to:
- Virtually design properties
- Access real-time information on site
- 3D property walkthroughs for customers

- Use **3D Printing** to:
- Construct components or entire buildings

- Use **drones** to:
- Collect photos, videos & measurement from site
- Provide control & security

Martin Bros., Los Angeles (2018)
Use of HoloLens to build bathroom without construction plans

WinSun, China (2015)
3D-printed five-storey building

Project Milestone, Eindhoven University of Technology (2018)
World's first 3D-printed habitable homes

Innovating: Estate Management

Use **cloud-based platform** & **machine learning** to:

- Access all property documentations in one place
- Manage assets & customer records more efficiently

Use data gathered from **connected appliances** to:

- Monitor & minimise energy consumption

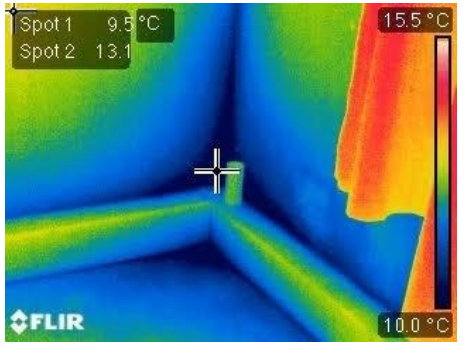
Use **AI chatbots** and smart **IoT devices** to:

- Obtain quick information on repair/substitution needs & prompt actions
- Maximise efficiency & reduce costs
- Act proactively to increase customer satisfaction

Use **3D printing** to:

- Produce fast & personalised substitute parts

UK (2018)
Smart Meters



Renfrewshire Council, UK (2018)
Predictive maintenance using IoT - smart sensors

Innovating: Resident Experience

- Use **IoT** to:
- Create a smart home environment
- Connect devices & appliances that can set, remember & anticipate tenants' preferences
- Improve life quality for more vulnerable tenants

- Use **AI-based interfaces** to:
- Respond to customer queries
- Schedule appointments
- Get info on rent payments
- Report faults & needs
- Avoid service failures
- Analyse customers' comments & complaints
- Predict difficulties in paying rent & prompt early interventions

Nest UK (2017)
Smart thermostats & smoke alarms

LG (2017)
Smart fridge

Capita (2017)
Proof of concept using Amazon's Alexa for tenants' enquiries

Innovating: Social Care

Use **AI-based interfaces** to:

- Perform daily check-ups on tenants' health conditions
- Pick up on tenants' patterns to monitor sudden changes

Use **motion sensors** & **wearables** to:

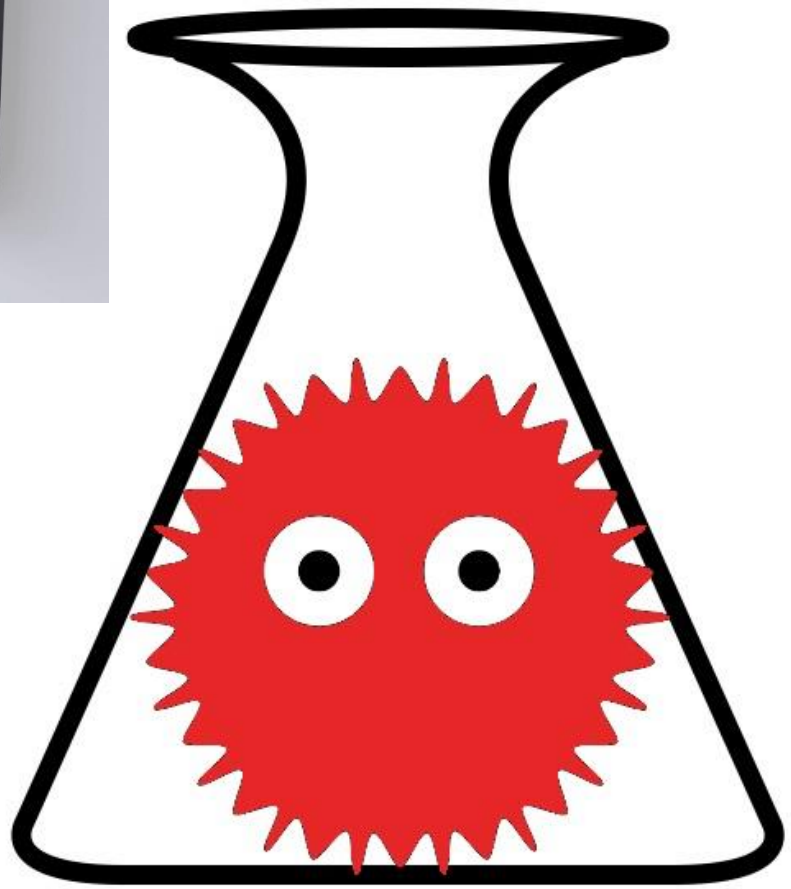
- Monitor movements & vitals of patients in need of care

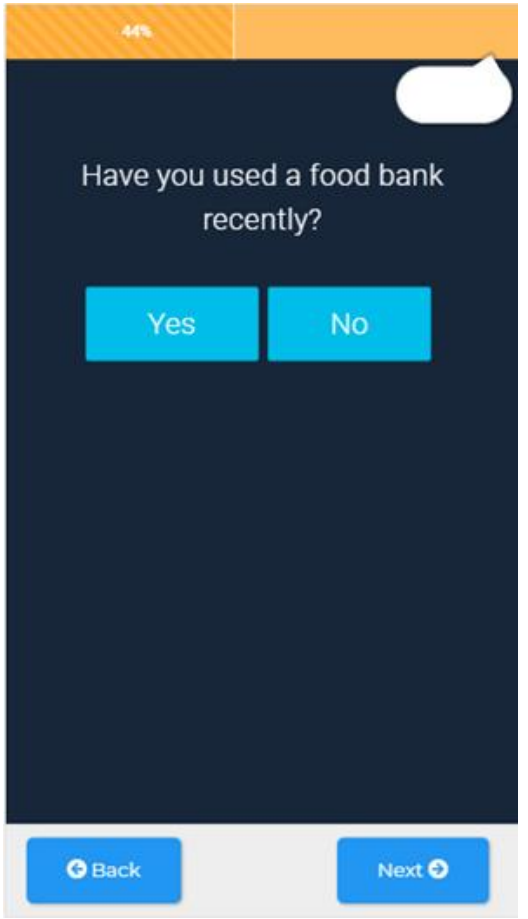
Use **smart locks** & **alarm systems** to:

- Improve monitoring & enhance security
- Collect real-time data and escalate situations to emergency services if needed

Loreburn Housing Association, Scotland (2018)
Use of smart wristbands to monitor senior tenants' health & prevent falls

homelync




44%
Have you used a food bank recently?
Yes
No
Back
Next

Our Vision and objectives

Key long run benefits of a data standard for the sector:

- The ability to bring together data on tenants or assets quickly and easily across multiple systems and use it to drive more effective business decisions
- Greater freedom to move between and integrate technology platforms- creating a more functional market in housing technology and data insight
- Enable more effective data sharing with other public services and participate in the growing policy interest in this space
- Generate better and more bespoke comparative performance and cost insights
- Open the door to faster introduction of connected home/IoT technologies.
- Reduce costs around service sharing, stock rationalisation and merger by providing greater transparency and comparability of operational data and reduced business integration overheads

Thank you

www.hact.org.uk

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