

Housing 2.0



**technology trends
and opportunities
for the housing sector**



Paul Lees and Brian Moran

www.adactushousing.co.uk

**Resources committed to
development**



**Development costs
per unit**

=



spl00MI7m1M



**Grant + Surplus
+ Loans**



**Build costs
+ Interest costs**

=

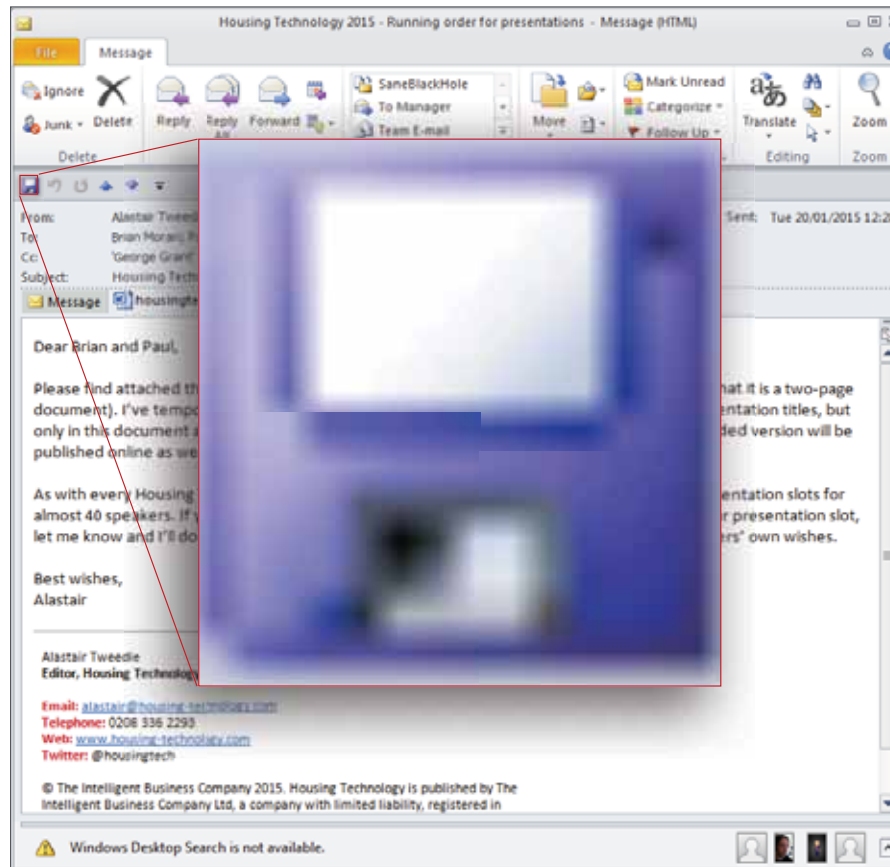




WELCOME

TO THE WORLD OF TOMORROW

Old habits die hard





The 'read-only web'
1990 - 2004



The 'dynamic web'
2004 -





Linux

1991

Oracle

1979

C++

1983

Perl

1988

Mason

2000

Java

1996

Jboss

2002

Servlets

1997



The technology platform wasn't new...



RECYCLED



PLEASE RECYCLE

Packaging can be disposed of through waste collection or recycled where facilities are available. Aware of the duty to help maintain a better environment the present packaging is made 100% from recycled fiber and can be fully recycled.



***Anyone who doesn't do this
will be fired.***

Jeff Bezos attrib.

On Amazon's shift to Service Oriented Architecture around 2002



Audi
Vorsprung durch Technik



und Management und Führung



Housing 2.0

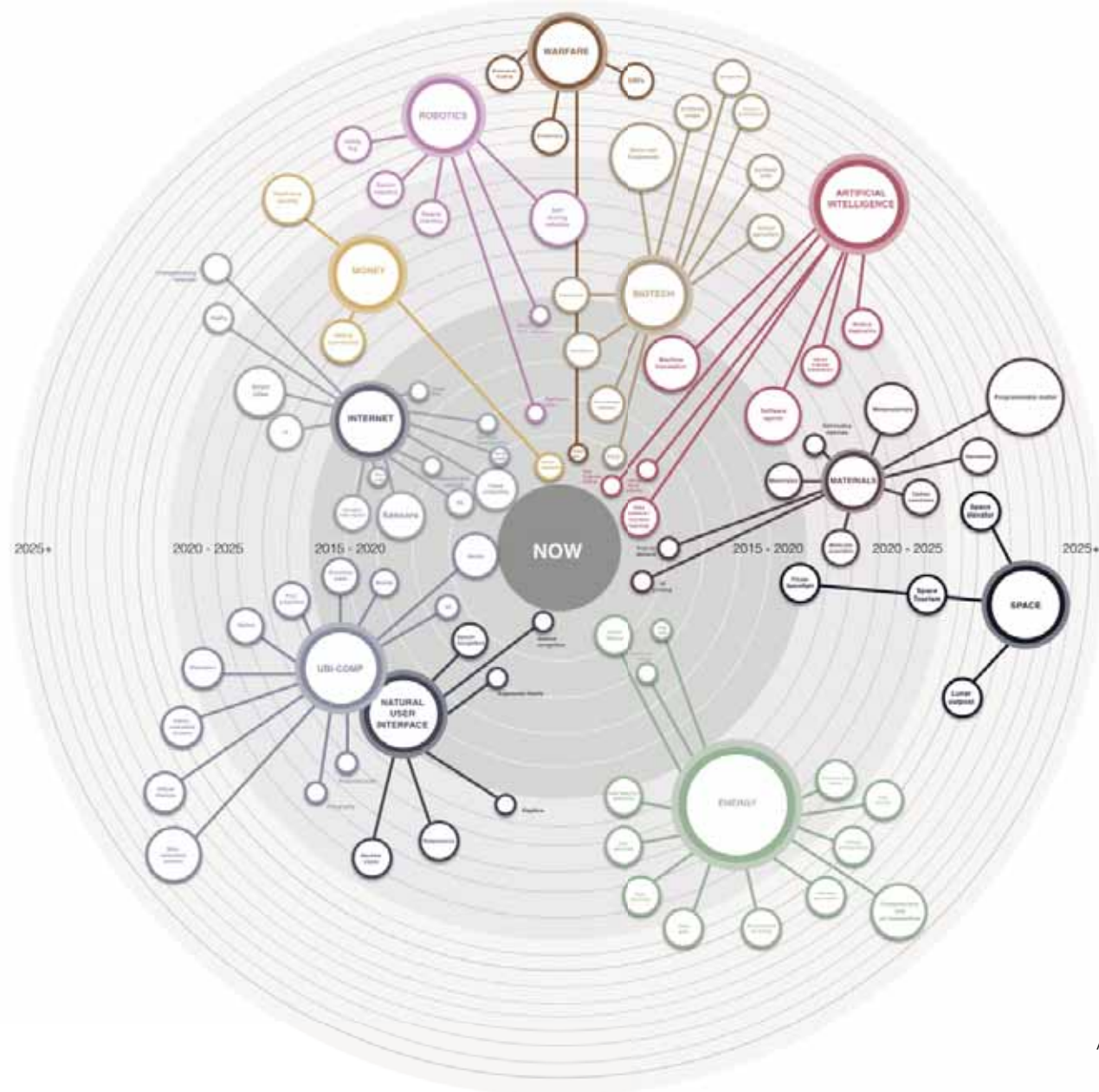
Principles



**Vision and leadership
to question old ways of working**

**Fully embrace the opportunities
from existing technology**

**Keep future technology paths
open and under review**













Amazon Web Services

Compute & Networking



Direct Connect

Dedicated Network Connection to AWS



EC2

Virtual Servers in the Cloud



Elastic MapReduce

Managed Hadoop Framework



Route 53

Scalable Domain Name System



VPC

Isolated Cloud Resources

Storage & Content Delivery



CloudFront

Global Content Delivery Network



Glacier

Archive Storage in the Cloud



S3

Scalable Storage in the Cloud



Storage Gateway

Integrates On-Premises IT Environments with Cloud Storage

Database



DynamoDB

Predictable and Scalable NoSQL Data Store



ElastiCache

In-Memory Cache



RDS

Managed Relational Database Service



Redshift ^{NEW}

Managed Petabyte-Scale Data Warehouse Service

Deployment & Management



CloudFormation

Templated AWS Resource Creation



CloudWatch

Resource and Application Monitoring



Data Pipeline

Orchestration for Data-Driven Workflows



Elastic Beanstalk

AWS Application Container



IAM

Secure AWS Access Control



OpsWorks ^{NEW}

DevOps Application Management Service

App Services



CloudSearch

Managed Search Service



Elastic Transcoder ^{NEW}

Easy-to-use Scalable Media Transcoding



SES

Email Sending Service



SNS

Push Notification Service



SQS

Message Queue Service



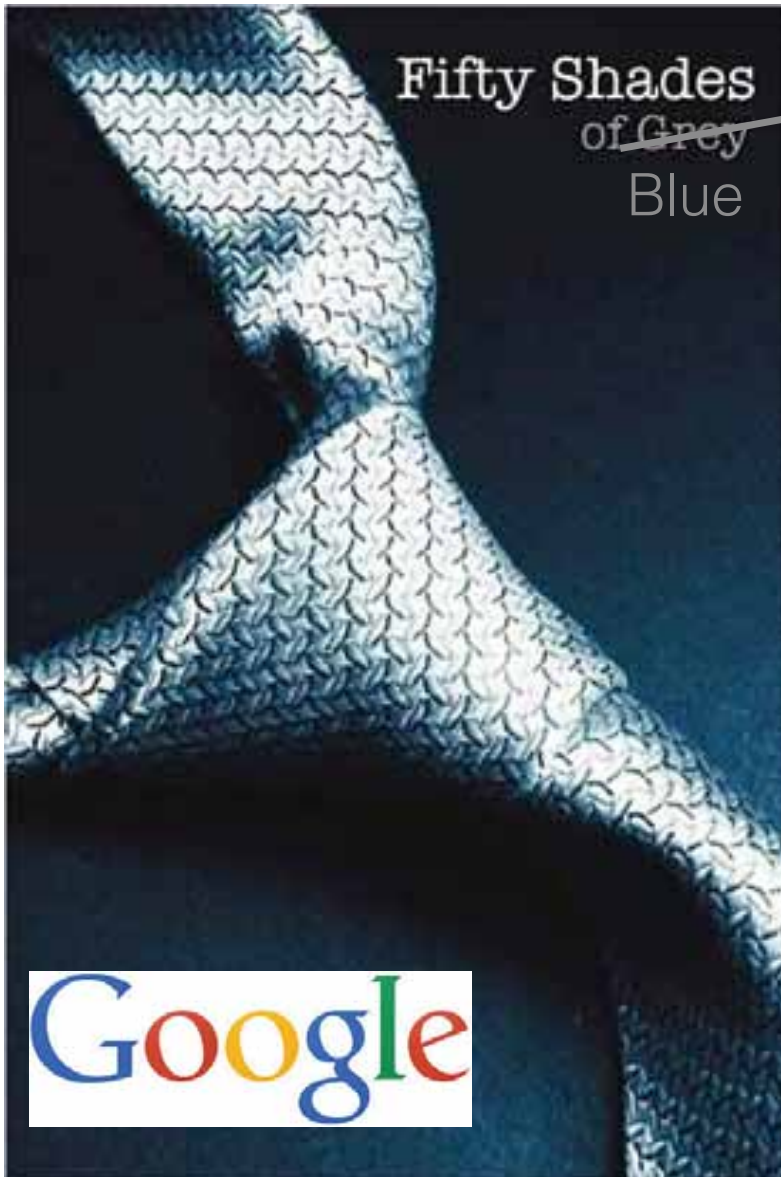
SWF

Workflow Service for Coordinating Application Components



Conducts over 80,000 big data experiments a year





= \$200m



ECONOMIC GRAPH

CHALLENGE

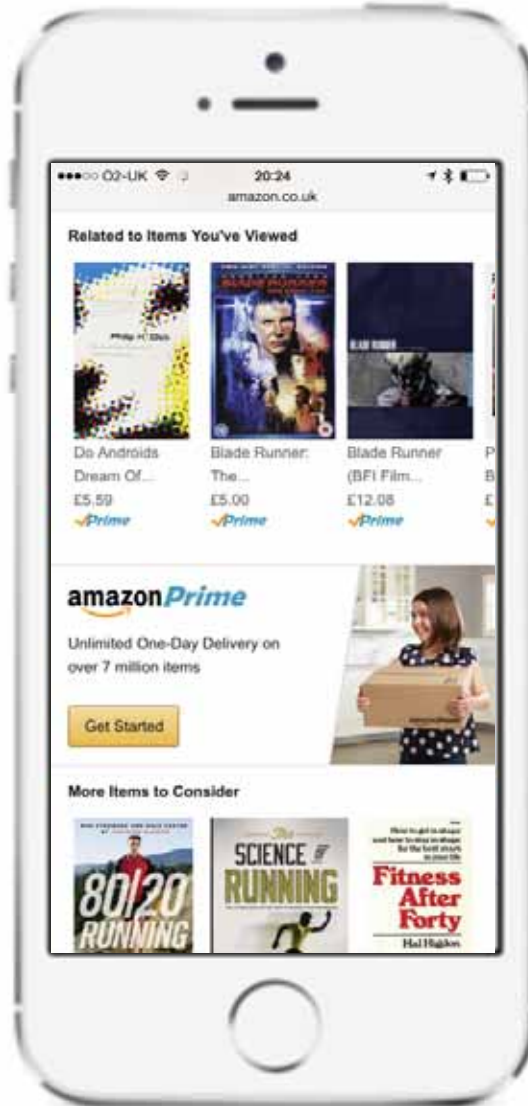
[Submit your proposal](#)



Measure job seeking
behaviors of your
workforce so you can
retain top talent

Discover more

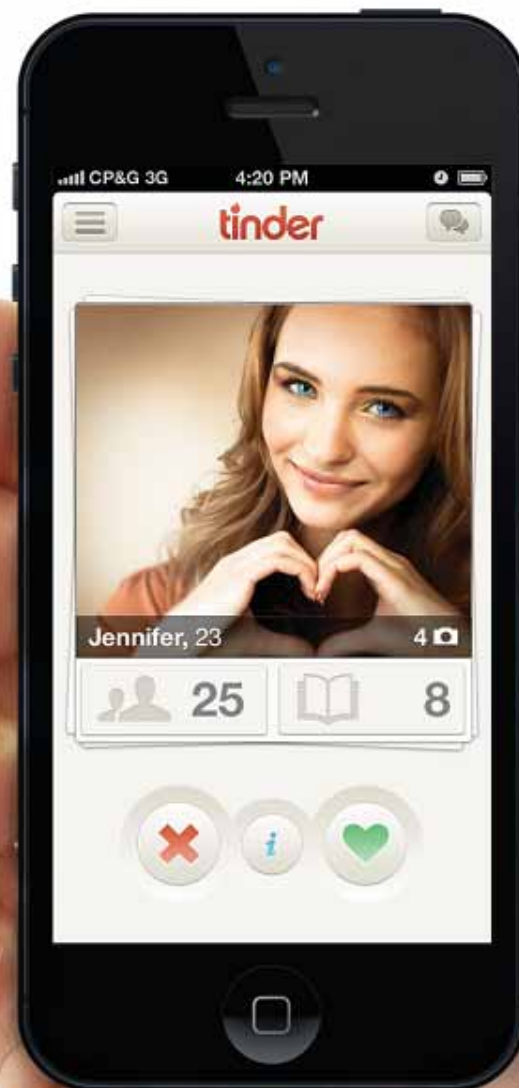
Runs



Likes Blade Runner

Likes science and analysis

Is over 40



GAS SAFE REGISTER NORTH WEST ENGLAND BEHAVIOUR CHANGE PILOT

300% INCREASE

IN JUST FIVE MONTHS GAS SAFE ACHIEVED A STAGGERING THREEFOLD INCREASE IN THE NUMBER OF HIGHER RISK HOUSEHOLDS HAVING ANNUAL GAS SAFETY CHECKS. 26,700 PRE-CAMPAIGN ROSE TO 80,150, THAT'S A TOTAL OF 53,450 HOUSEHOLDS. THE NATIONAL AVERAGE WAS JUST 7%.

**GAS
safe[®]
REGISTER**

Summary Analysis

HouseMark^{HM}
business intelligence

CAPITA

 HACT
Ideas and innovation in housing


mobysoft
HOUSING INTELLIGENCE











Overview

Analysis 🔒

Pace Analysis

Pace Distribution

Heart Rate

Segments

Laps

Matched Runs



Brian Moran – Run



1



0



1:07 PM on Monday, February 2, 2015

Achy achy knees

With Gray.

10.1 mi

Distance

1:17:29

Moving Time

7:40/mi

Pace

Elevation

623ft

Calories

1,605

Elapsed Time

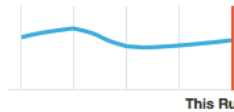
1:17:29

Shoes: ASICS Gel-Nimbus 16 Road shoe (44.4 mi)

5 Runs on this Route >

This Run 7:40/mi

Trending Faster ▲



This Run

Nice Work! You have completed this route 5 times. Keep it up!

View Matched Runs

TOP RESULTS



Best estimated 10 miles effort (1:16:43)

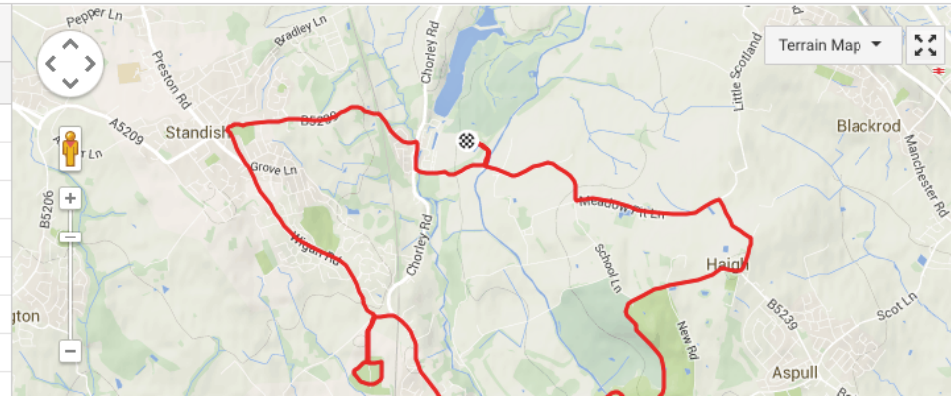


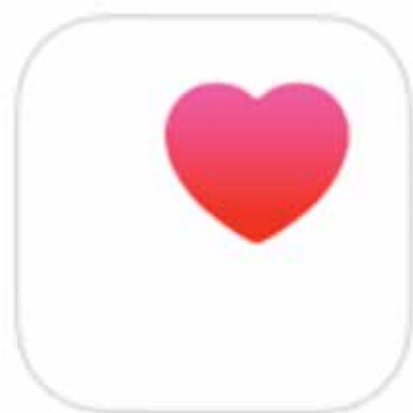
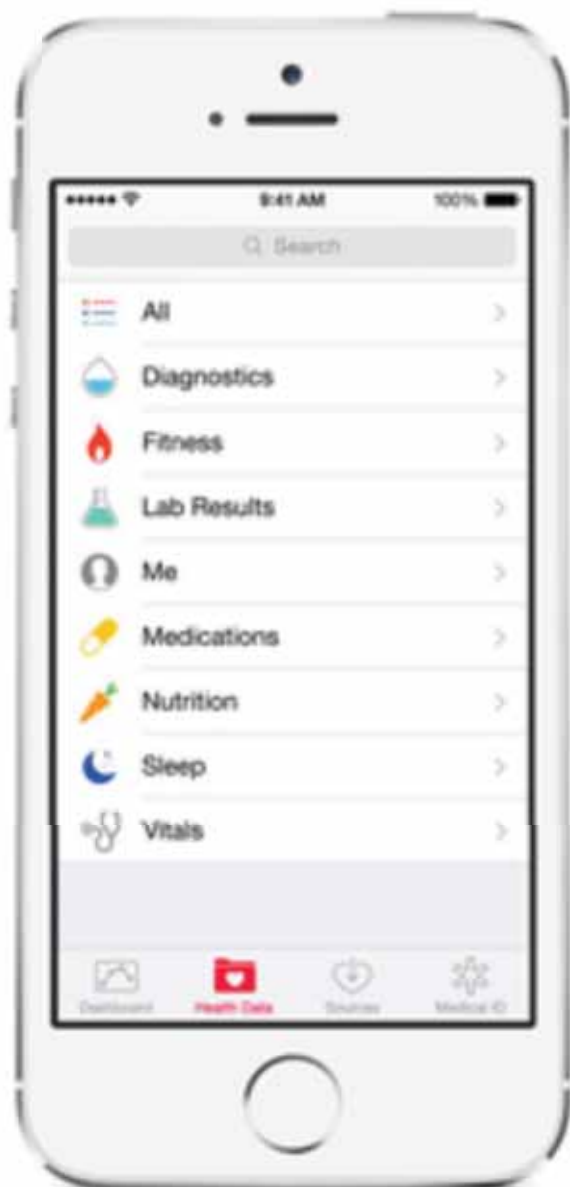
Best estimated 15k effort (1:11:00)

3rd fastest time on [Cherry Gardens to Boars Head](#) (7:01)3rd fastest time on [Haigh Hall House to Plantation Gates](#) (13:52)

Splits

Mile	Pace	GAP	Elev (ft)
1	7:39	6:51	140
2	7:36	6:56	113
3	7:04	7:34	-107
4	6:56	7:38	-138
5	7:49	8:00	-59
6	8:00	7:47	30
7	7:53	7:45	5
8	8:23	7:45	100





Health.

[How It Works](#)[Product](#)[Community](#)[LOGIN](#)[ACTIVATE NEW TAGG](#)[SUPPORT](#)[Buy Now](#)

Pet Activity Monitor

Track your pet's activity to help keep your dog healthy.



Measure Activity & Stay Healthy

Onboard accelerometer monitors your dog's exercise & movement.

Tagg comes with a built-in accelerometer that senses your pet's movement. The accelerometer measures steps taken, distance walked, and overall activity duration and intensity every 30 seconds. This data is uploaded into your Tagg account and shown to you with easy to follow activity charts. Track your pet's activity to help keep them healthy and happy!

Set Goals and Track Progress

Tagg Points let you monitor daily exercise and track improvements.

Daily activity and movement will earn your pet Tagg Points based on how active they are. Tagg Points are similar to calories burned, but they take into account other factors such as your pet's previous and recommended activity levels, size, and weight. Set daily Tagg Points fitness goals and use tools like the Activity Snapshot to see if your pet meets their goals.

Activity Snapshot



Activity Category	Points
resting	49
lightly active	171
moderately active	99
highly active	56

Tagg Points for Today: 375
Current 30-Day Average: 367
Daily Tagg Activity Goal: 400

Meet the Perfect Companion for Your Child's Adventures

Stay connected with 2-way voice, safety alerts,
and GPS location. Now that's peace of mind.

BUY NOW



Recognized By



Mashable



FOX

CBS

Connect.

Stay close to your children with precise GPS tracking.





ALWAYS BE IN THE KNOW



Know instantly when your teen is texting, tweeting, or doing anything else behind the wheel



Receive notifications the second your child makes or takes a phone call while on the road



Set maximum speed limits and get alerts when your teen goes over them



Easily set a perimeter on a map and get alerts when your teen is outside it after curfew

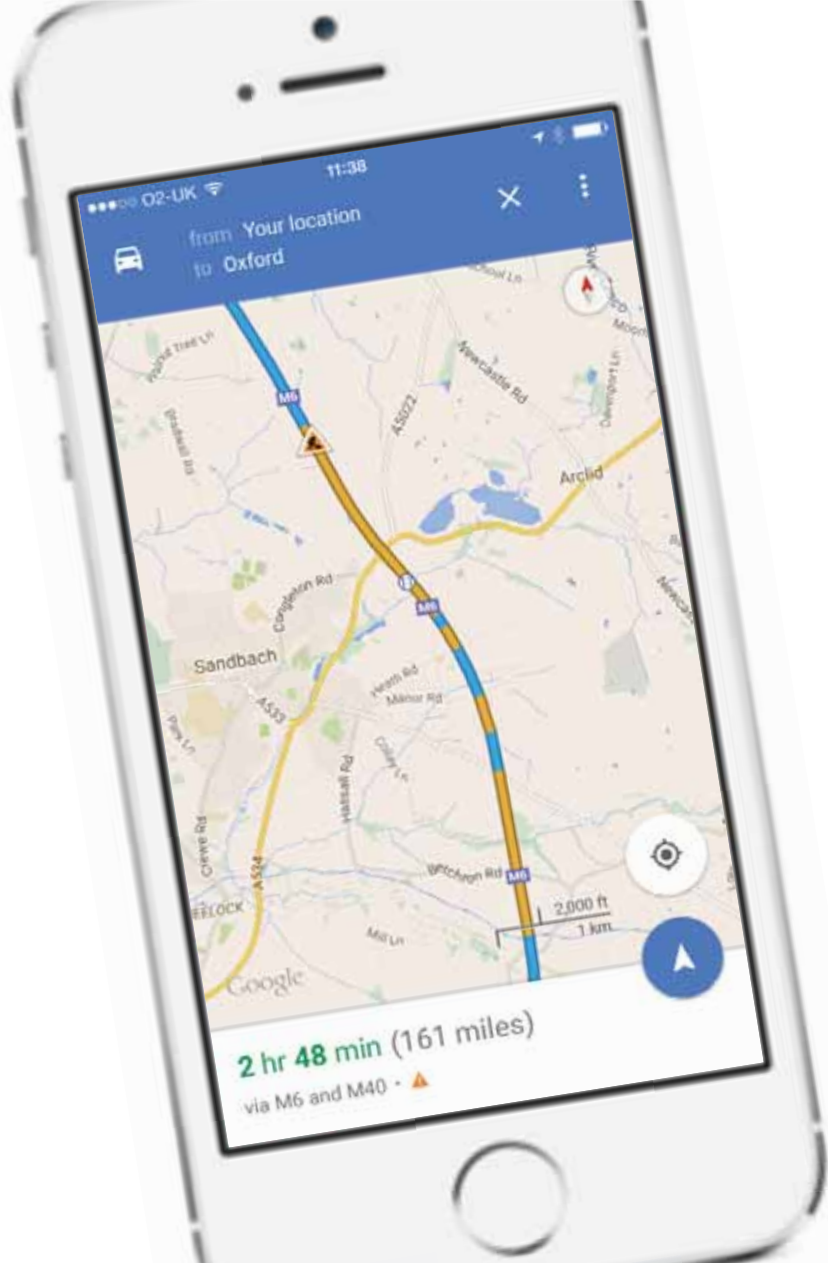
AND HAVE PEACE OF MIND



MagicBand

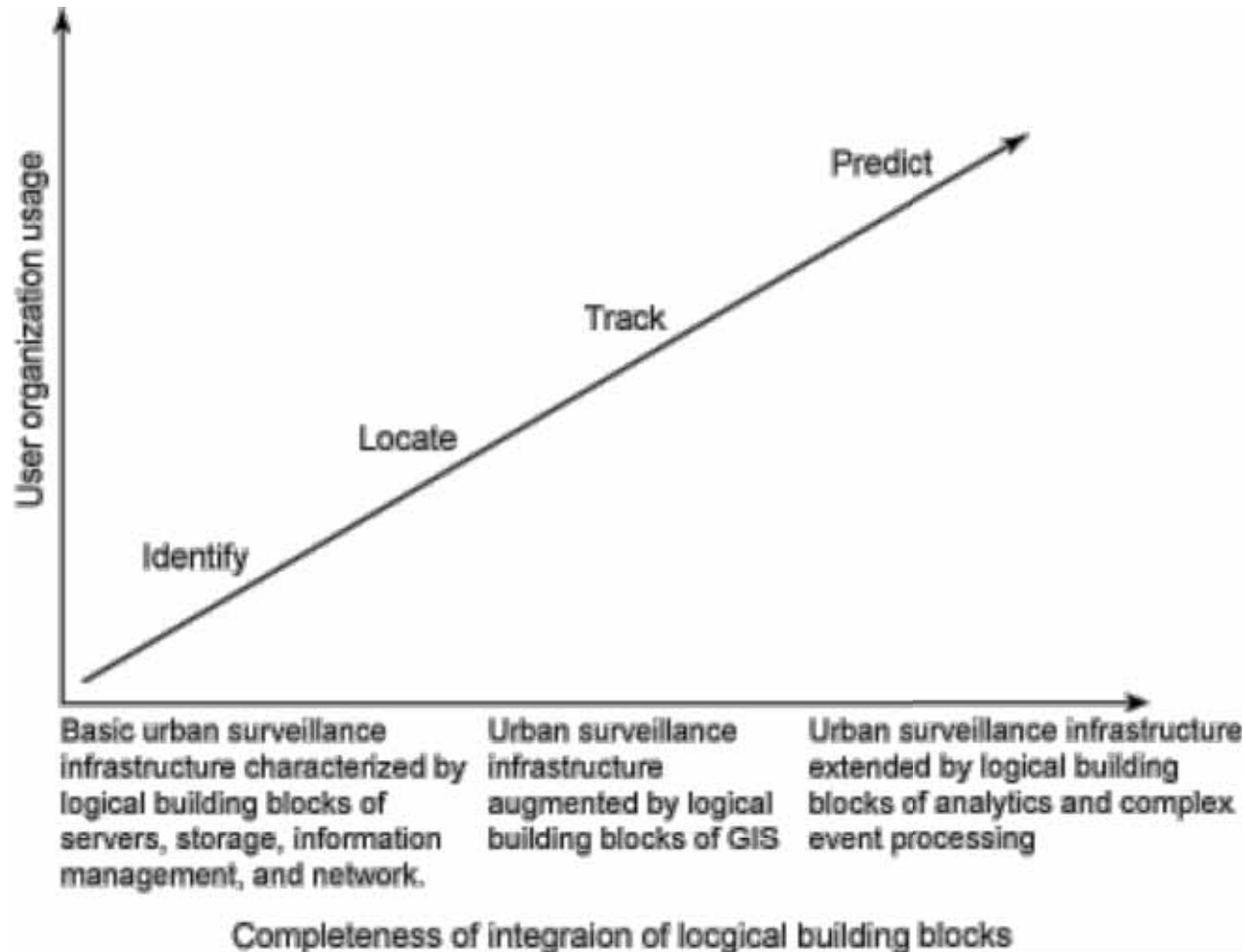


© Walt Disney World.



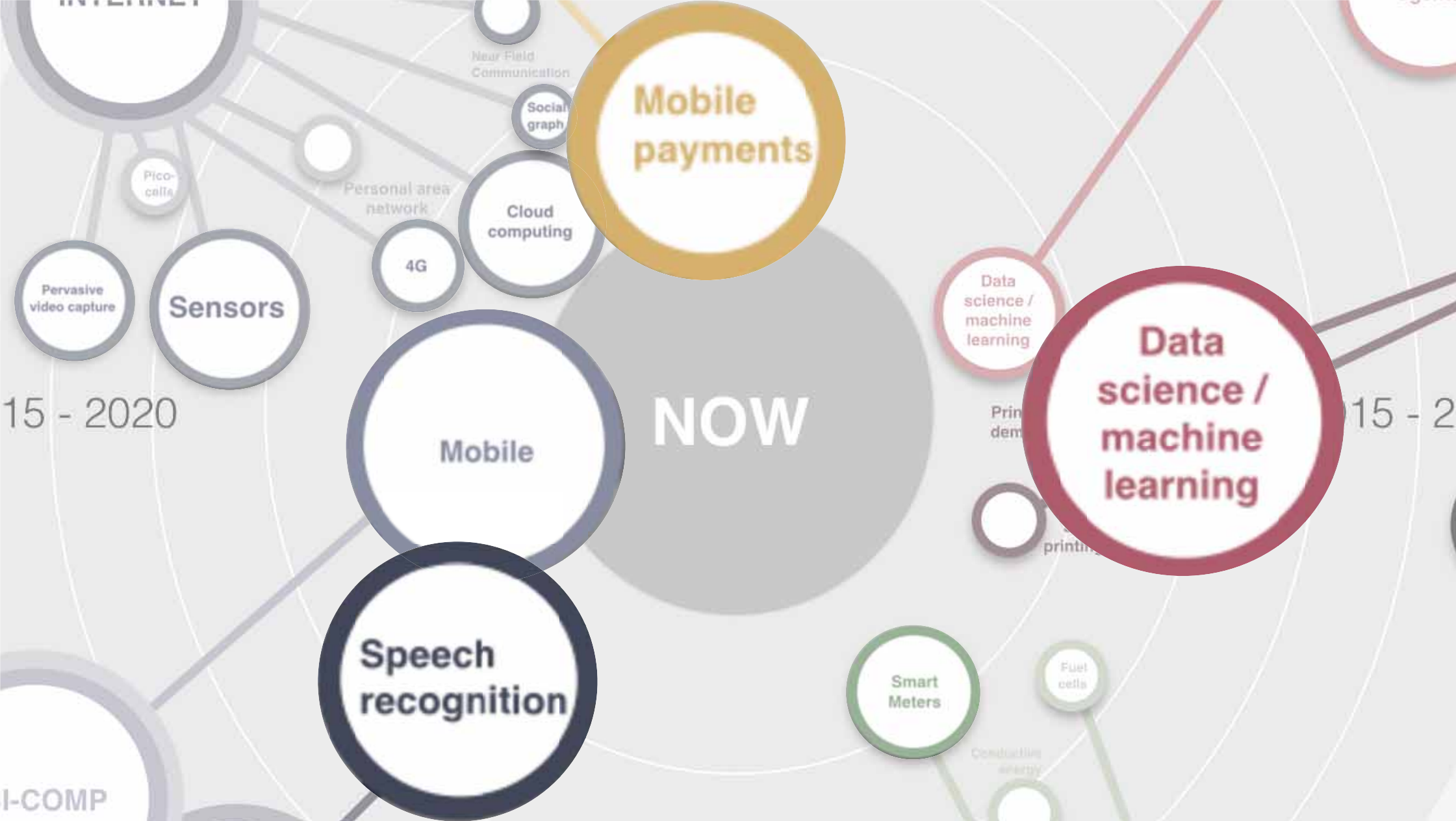


IBM's Urban surveillance infrastructure maturity model











1

SELF CHECKOUT

2

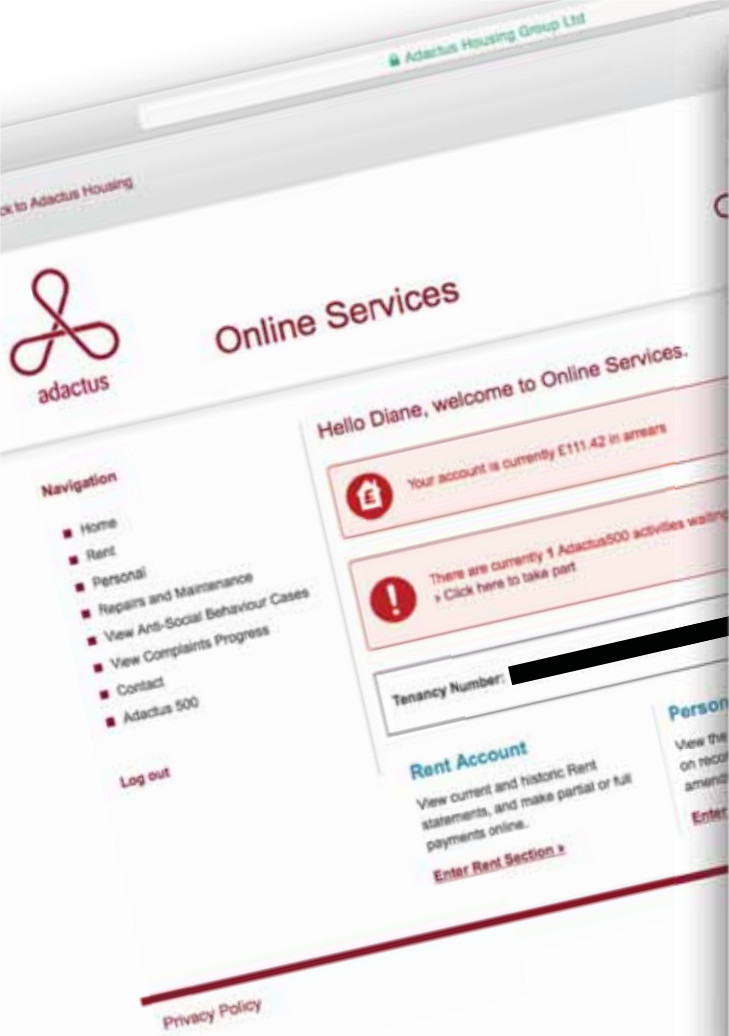
CHECKOUT

3

Patients

Please check
in using one
of our kiosks





Adactus Housing Group Ltd

Log out of your account | Text Size: a a

adactus Online Services

adactus adactus beech cch CHORLEY Community Housing

Rent Summary

This is your rent summary

Your current Statement Balance is: £111.42 in arrears [Pay Rent](#)
[Set up a Direct Debit >>](#)

[Click here for customer advice on tenancy agreements](#)

Select a date range:

27 5 0 5 2014 5 and 27 5 3 2 2018 2 [Go](#)

Please Note: Housing Benefit Payments may not appear on your statement immediately.

Recent Activity (most recent transactions are shown first)

Date	Description	Payments	Charges	Balance	GIA
23 Feb 2015	Rent Debit		£96.66	£111.42	A
16 Feb 2015	Rent Debit		£96.66	£44.76	A
09 Feb 2015	Rent Debit		£96.66	£21.90	C
02 Feb 2015	Rent Debit		£96.66	£98.56	C
26 Jan 2015	Rent payment - Direct debit	£288.86		£155.22	C
20 Jan 2015	Rent Debit		£96.66	£133.64	A
19 Jan 2015	Rent Debit		£96.66	£96.99	A
12 Jan 2015	Rent Debit		£96.66	£0.32	A
05 Jan 2015	Rent Debit		£96.66	£96.34	C
29 Dec 2014	Rent payment - Direct debit	£788.86		£133.00	C

[Request a contact to discuss rent arrears >>](#)

C means that your account is in credit
A means that your account is in arrears

Weekly rented tenancies

Please note the rent due for your property is posted onto your Rent Account each Wednesday. Therefore, if you are viewing a statement on Monday, Tuesday or Wednesday it will not include the rent due for the current week.



Apple's Siri



Google Now



Microsoft's Cortana

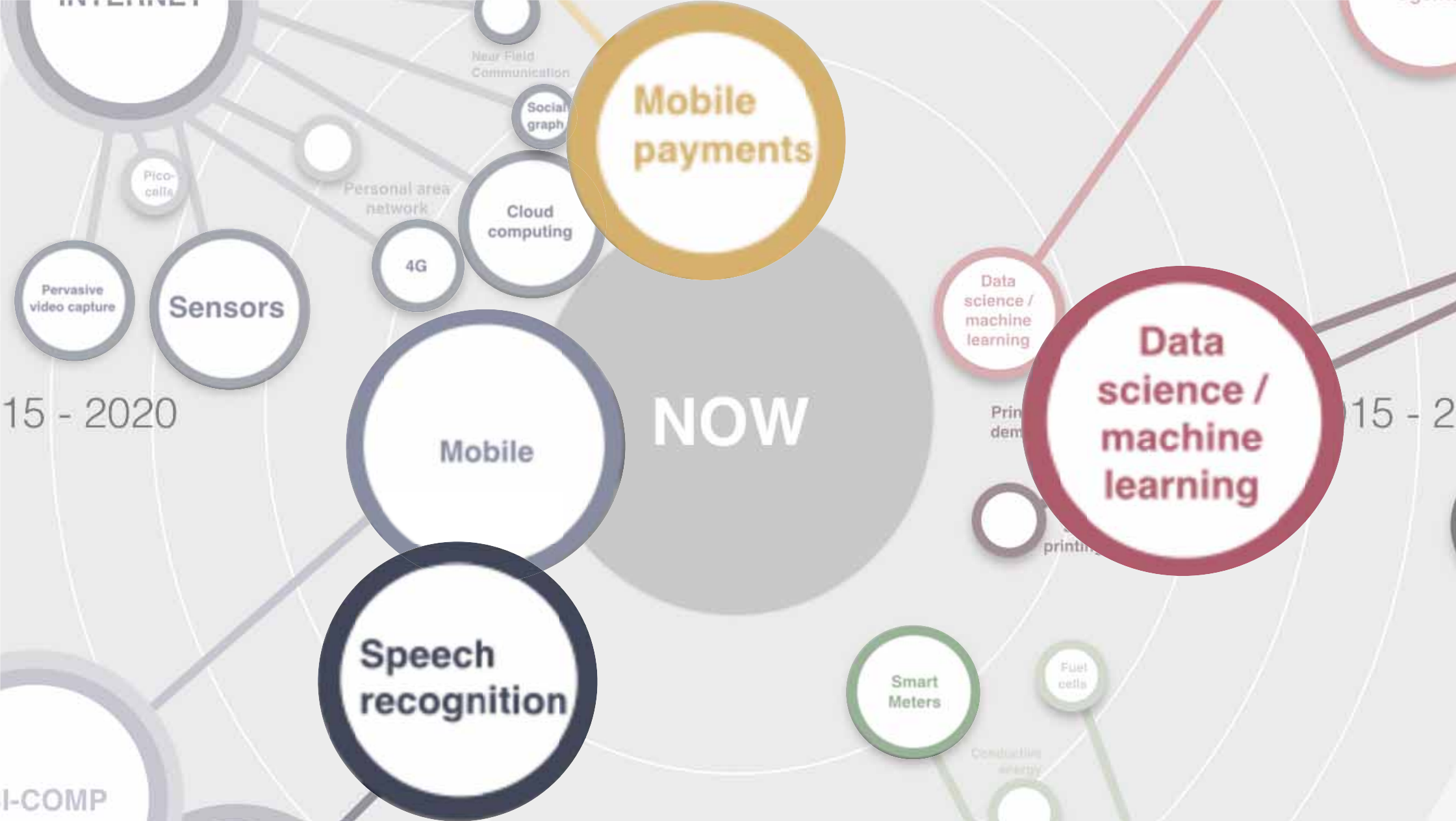








Bringing energy to your door





Housing 2.0

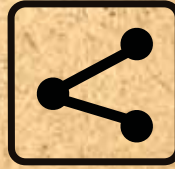
Platform



Housing 2.0



Platform



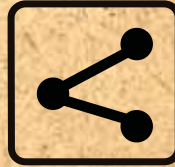
Social



Housing 2.0



Platform



Social



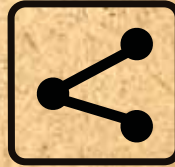
Mobile



Housing 2.0



Platform



Social



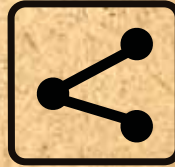
Mobile



Analytics



Housing 2.0



Social



Mobile



Analytics



Cloud

Housing 2.0

Themes



Housing 2.0



Themes



**Surveillance /
'coveillance'**



Housing 2.0



Themes



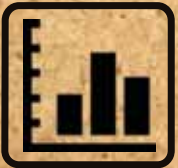
**Surveillance /
'coveillance'**

**Customisation /
segmentation**

Housing 2.0



Themes



**Surveillance /
'coveillance'**

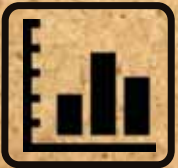
**Customisation /
segmentation**

**Automation /
'friction-free' services**

Housing 2.0



Themes



**Surveillance /
'coveillance'**

**Customisation /
segmentation**

**Automation /
'friction-free' services**

Data-led decisions

ing 2.0

u!snop



**Surveillance /
'coveillance'**

Low cost cameras

Smart Homes

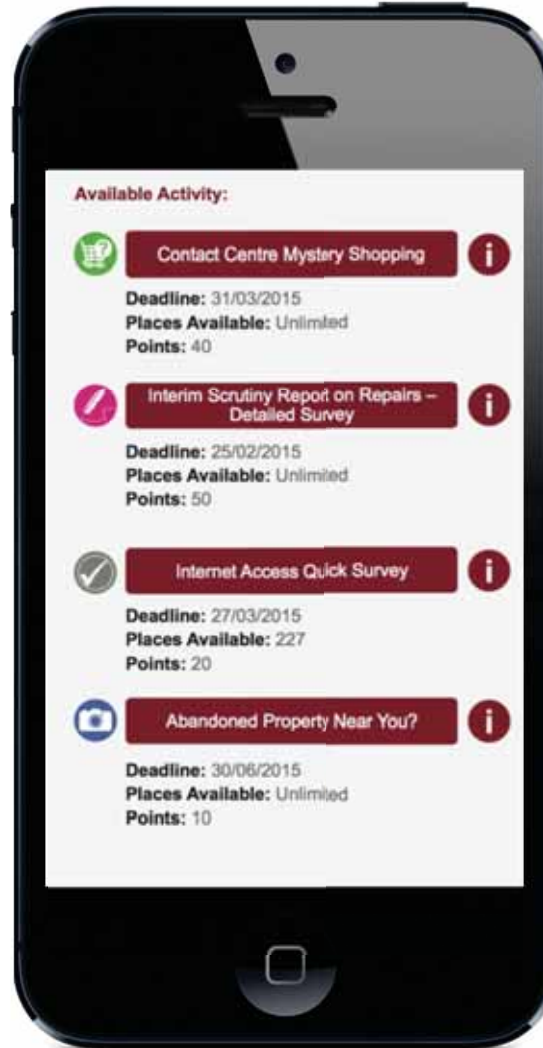
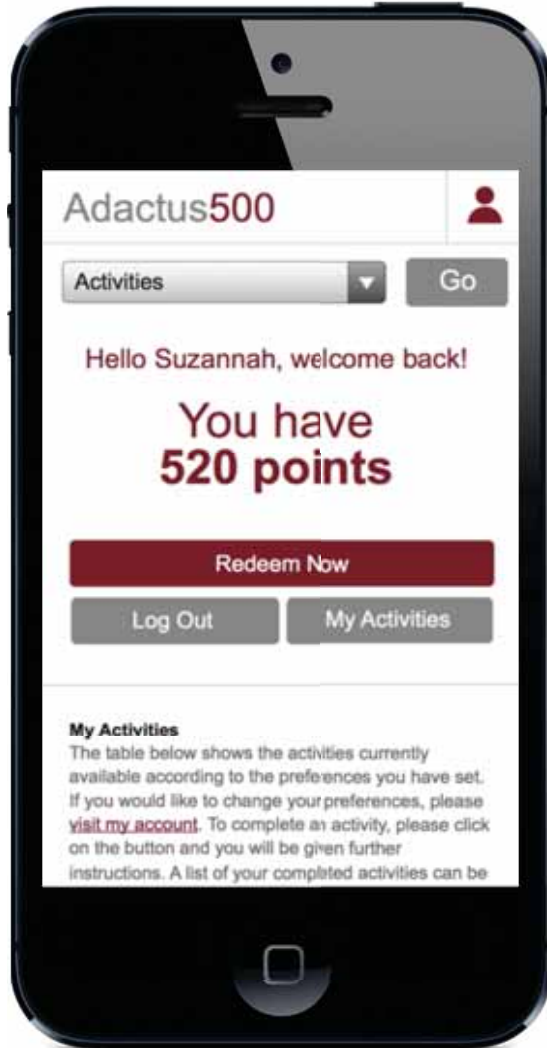
Staff as sensors

Tenants as sensors

Tenant health data

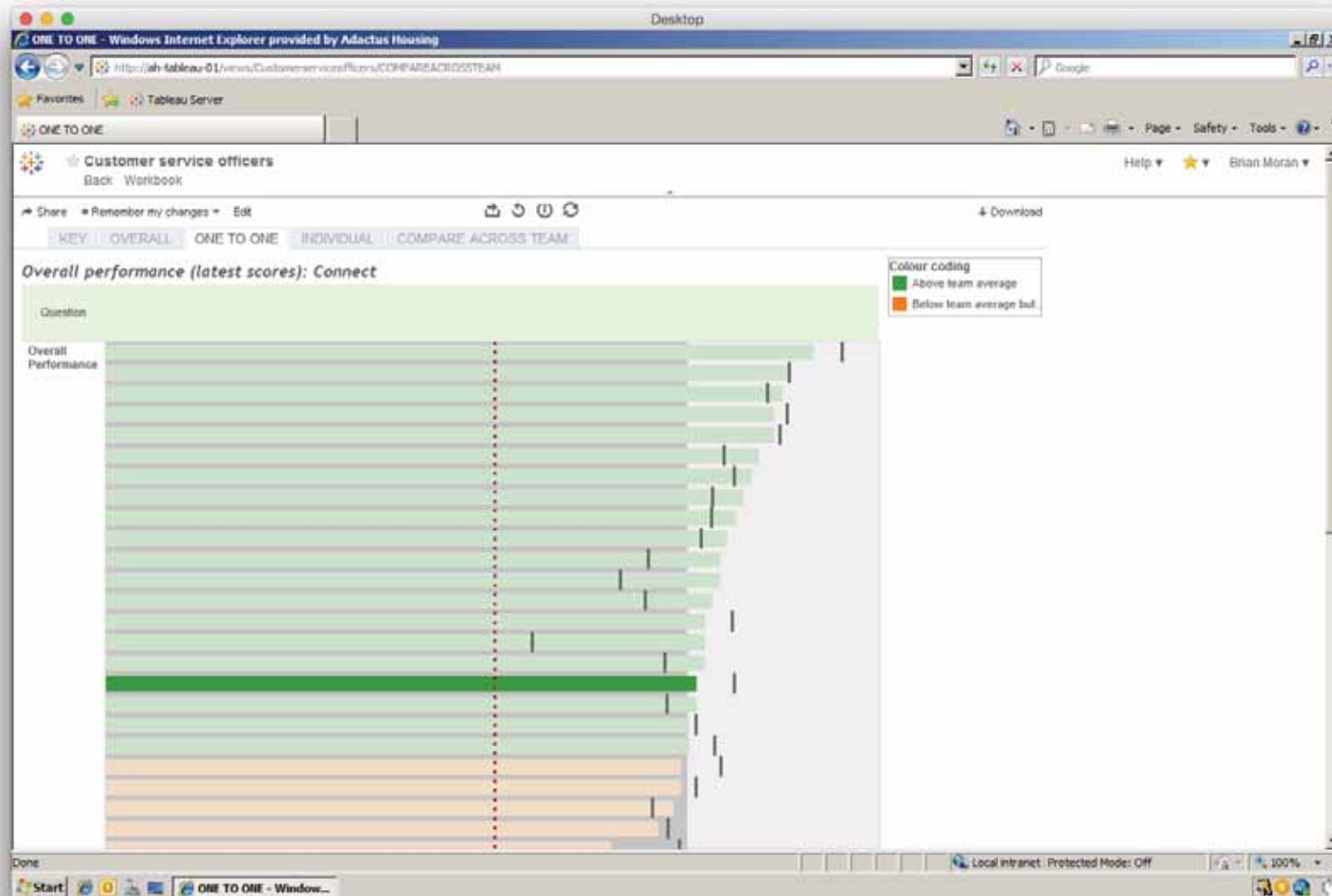


Surveillance / 'coveillance'



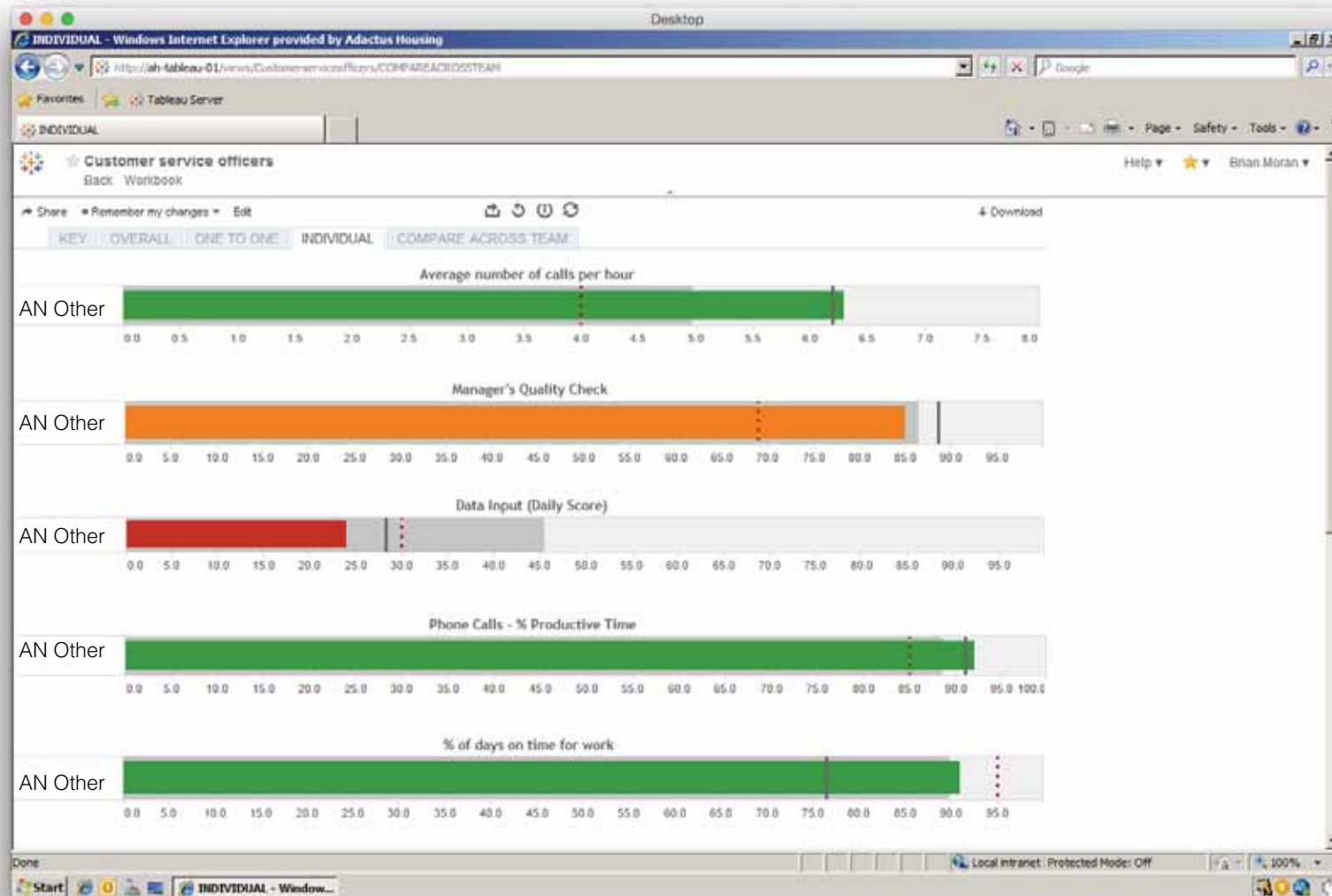


Surveillance / 'coveillance'





Surveillance / 'coveillance'



ing 2.0

u!snop



**Customisation /
segmentation**

**Customised and targeted tenant
information**

Early warning of failing tenancies

Tiered services

Tiered pricing?



Customisation / segmentation

TENANCY BALANCE

REPAIRS SPEND

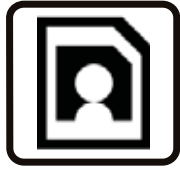
RECHARGEABLE REPAIRS

ASB CASES / LEGAL ACTION

COMPLAINTS

GAS NO ACCESS

CRM CONTACTS



Customisation / segmentation

~~AS RECOMMENDED BY THE ICSN~~

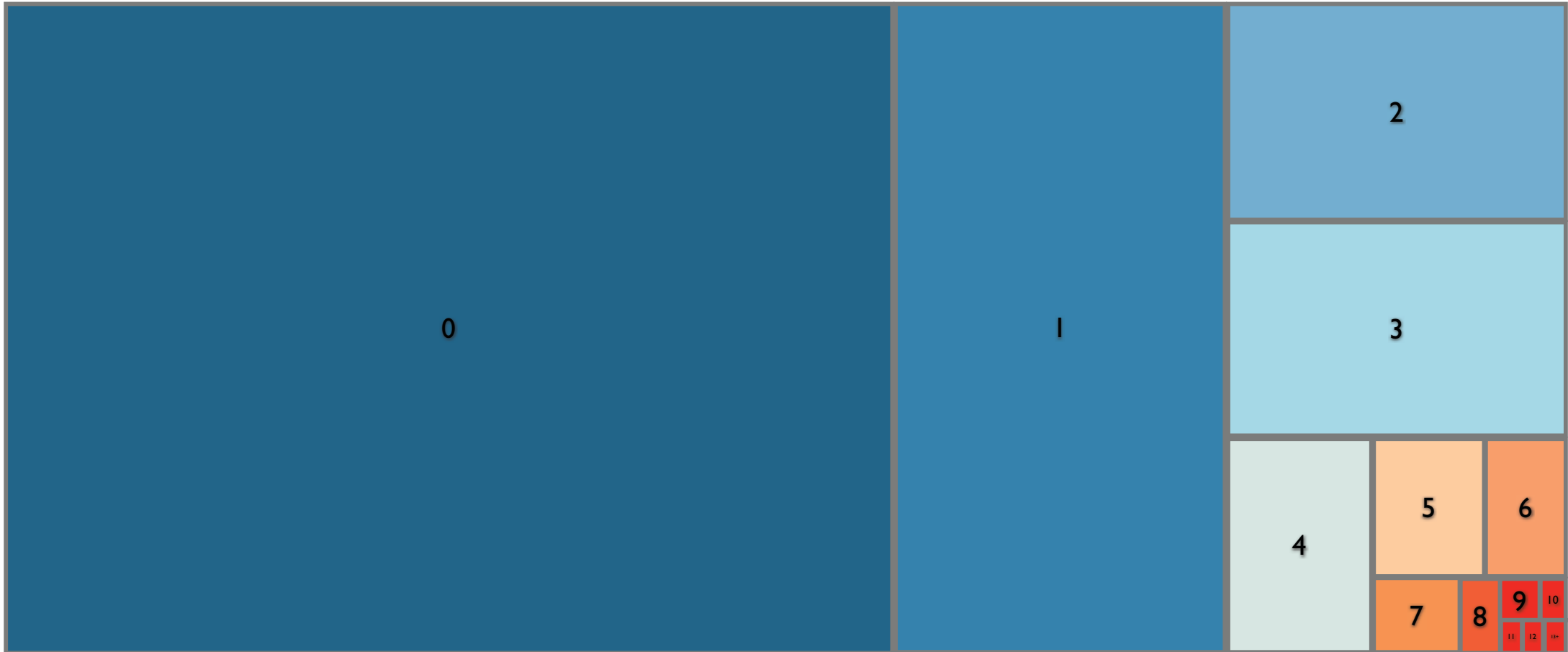


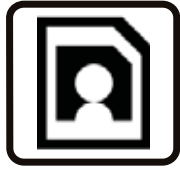
Customisation / segmentation

~~AS RECOMMENDED BY THE
PARETO PRINCIPLE~~



Customisation / segmentation





Customisation / segmentation



Only 0.8% of tenancies are challenging to manage

0

1

2

3

4

5

6

7



Customisation / segmentation

```
R Console

set.seed(crv$seed)

# Build the Decision Tree model.
crs$rpart <- rpart(Tenancy.success ~ .,
  data=crs$dataset[crs$train, c(crs$input, crs$target)],
  method="class",
  parms=list(split="information"),
  control=rpart.control(usesurrogate=0,
    maxsurrogate=8))

# Generate a textual view of the Decision Tree model.
print(crs$rpart)
printcp(crs$rpart)
cat("\n")

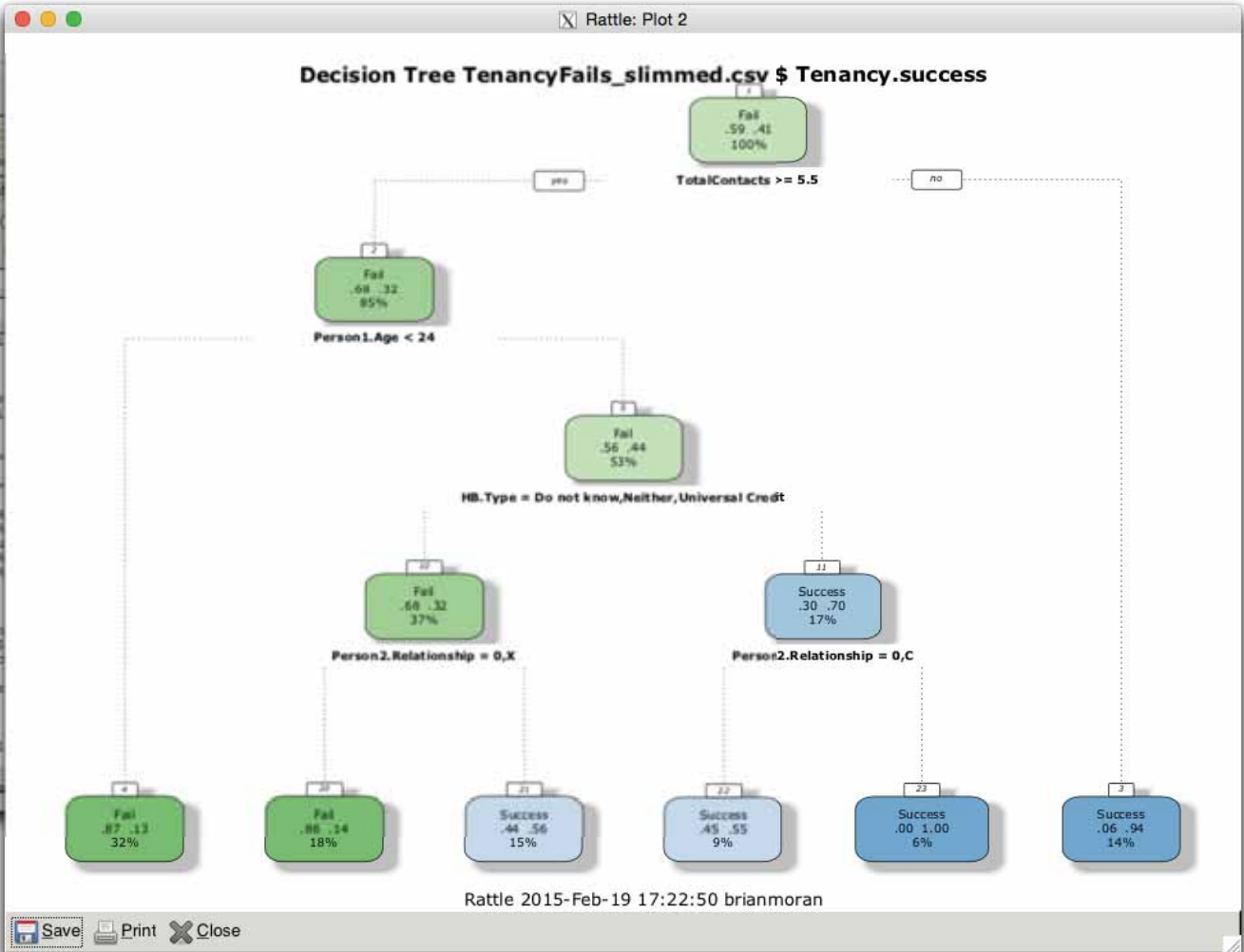
# Time taken: 0.01 secs

# Rattle timestamp: 2015-02-19 17:22:50 x86_64-apple-darwin13.4.0

# Plot the resulting Decision Tree.

# We use the rpart.plot package.
fancyRpartPlot(crs$rpart, main="Decision Tree TenancyFails_slimmed.csv $ Tenancy.success")
```

Project Tools Settings
Execute New Op
Data | Explore | Test | Trans
Type: ☒ Tree ☐ Forest
Target: Tenancy.success
Min Split: 20
Min Bucket: 7
Summary of the Decisi
n= 120
node), split, n, loss
* denotes termi
1) root 120 49 Fail
2) TotalContacts>=
4) Person1.Age<
5) Person1.Age>=
10) HB.Type=0,
20) Person1.H
21) Person1.H
11) HB.Type=8ou
22) Person1.H
23) Person1.H
3) TotalContacts<
Classification tree:
rpart(formula = Tena
c(crs\$input, crs\$
control = rpart.c
Variables actually us
[1] HB.Type
[4] TotalContacts
Root node error: 49/1





**Customisation /
segmentation**

CAPITA



ing 2.0



u!snop

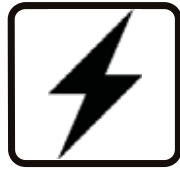


**Automation /
'friction-free' services**

Real self-service

Mobile and IVR as main channels

**Human-free housing management
processes**



Automation / 'friction-free' services

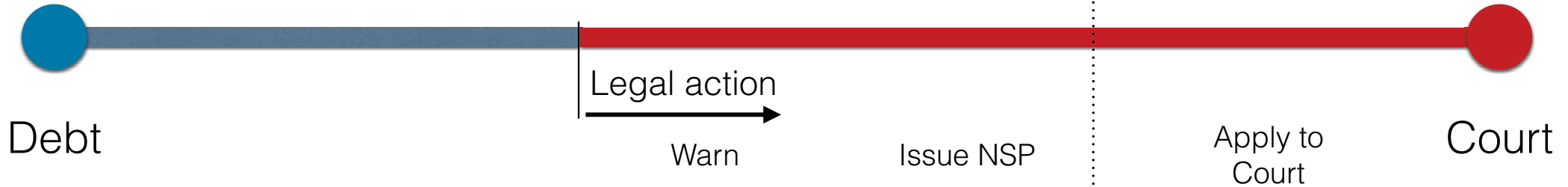
Machine

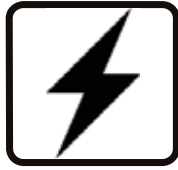
Human

Identify

Inform

Chase





**Automation /
'friction-free' services**

**One click
repair**

adactus



ing 2.0

u!snop



Data-led decisions

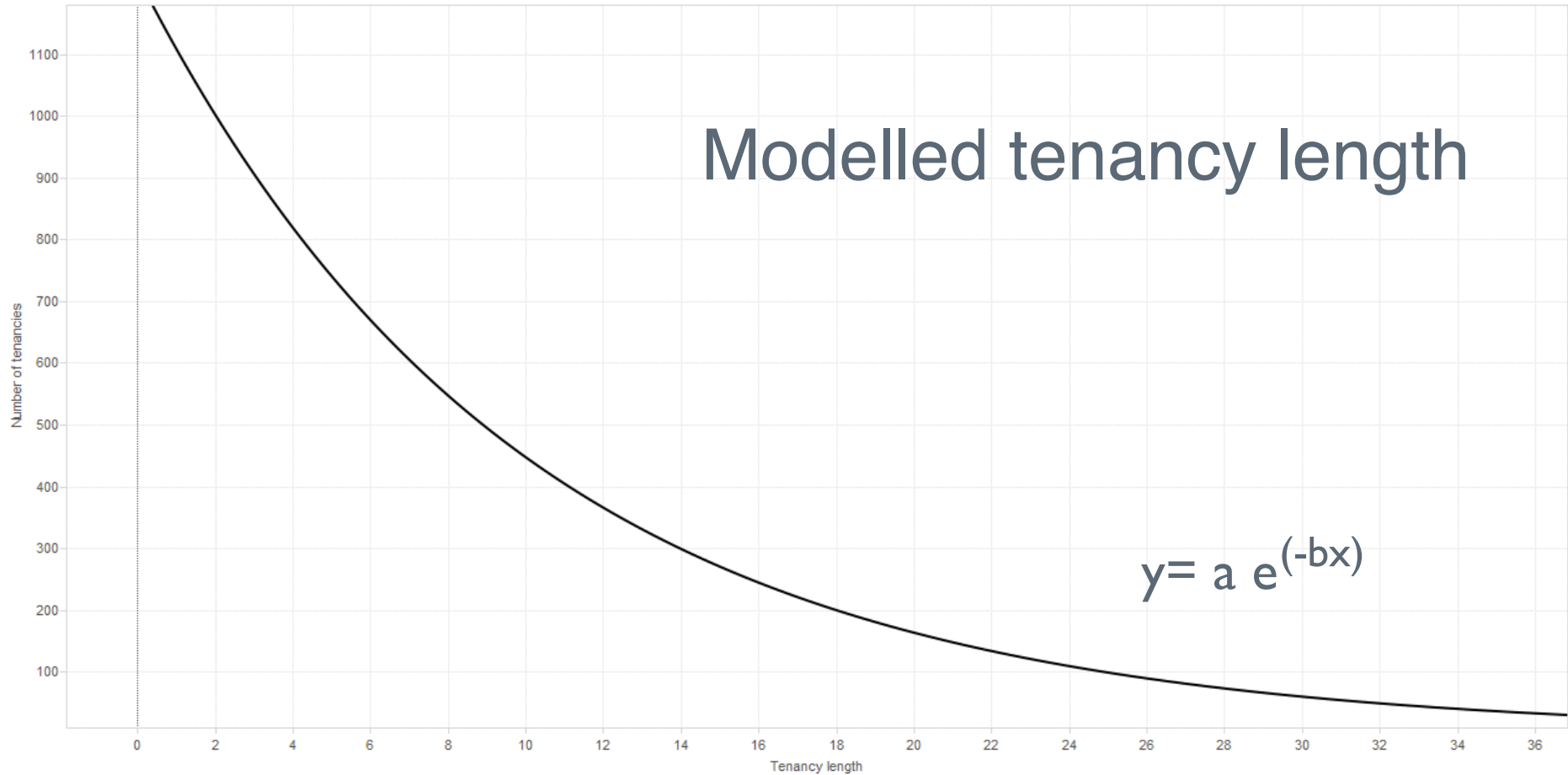
Knowledge and insight

Randomised trials

**Challenging long-established
practices**



Data-led decisions



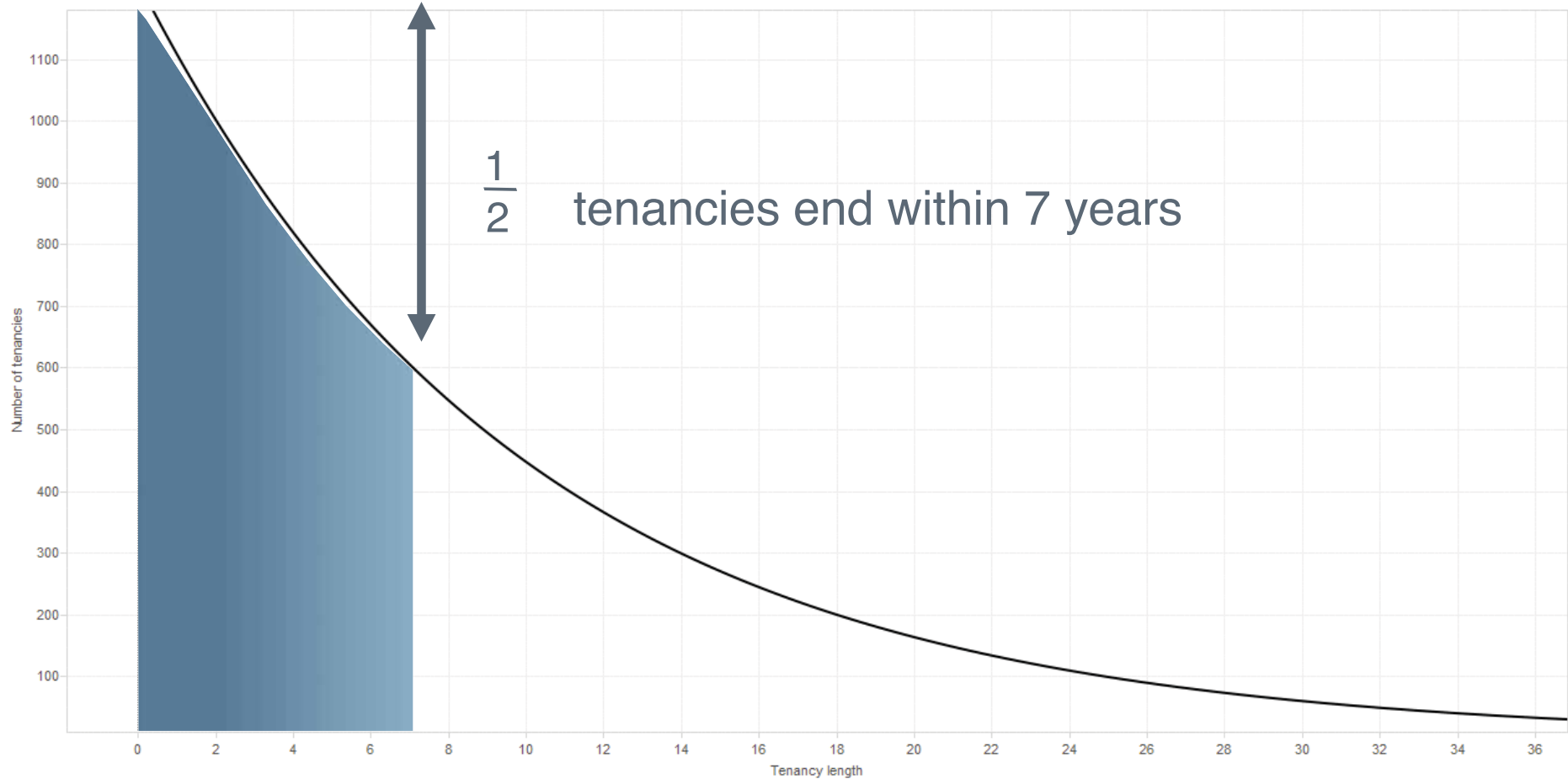


Data-led decisions



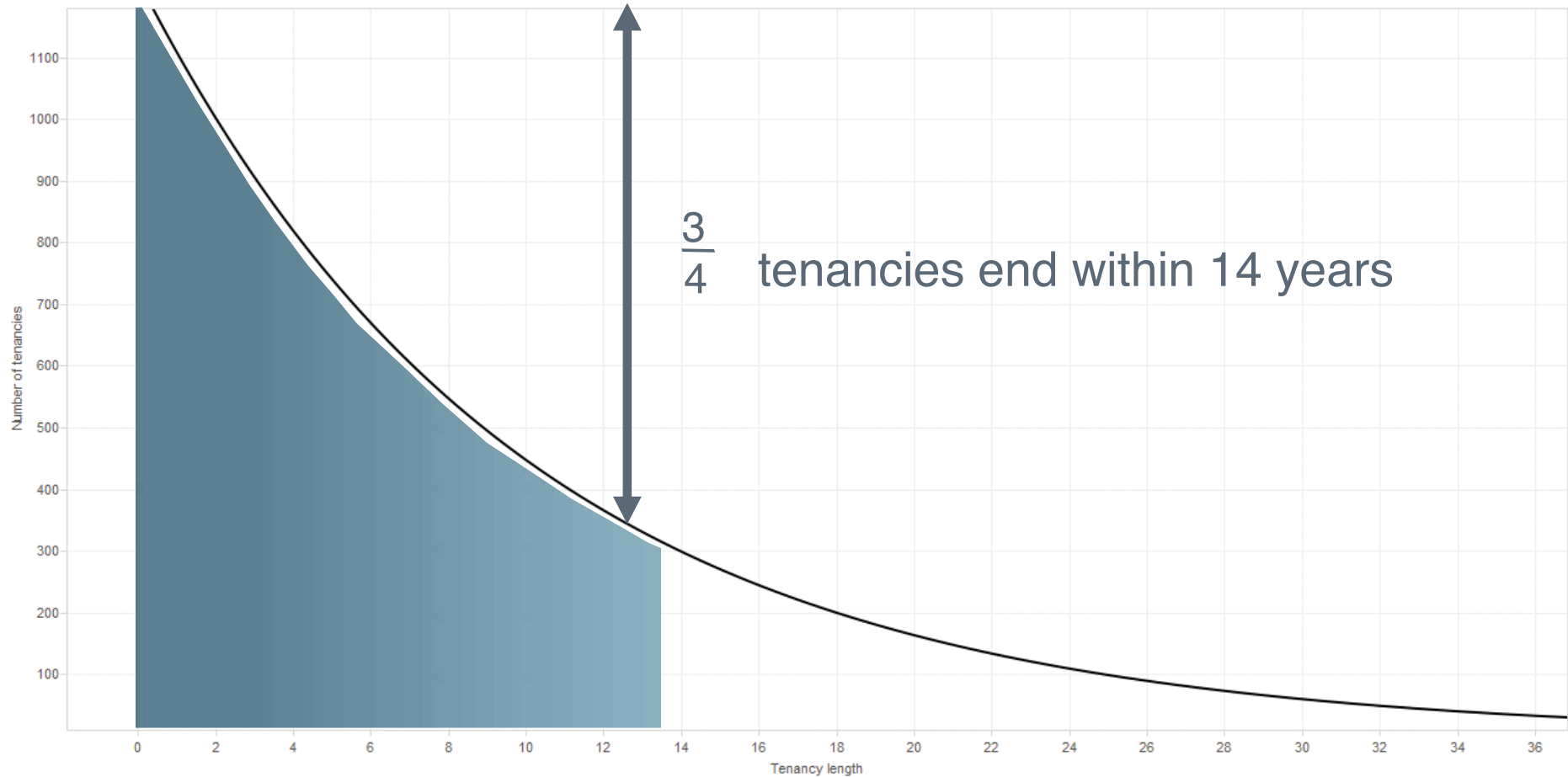


Data-led decisions



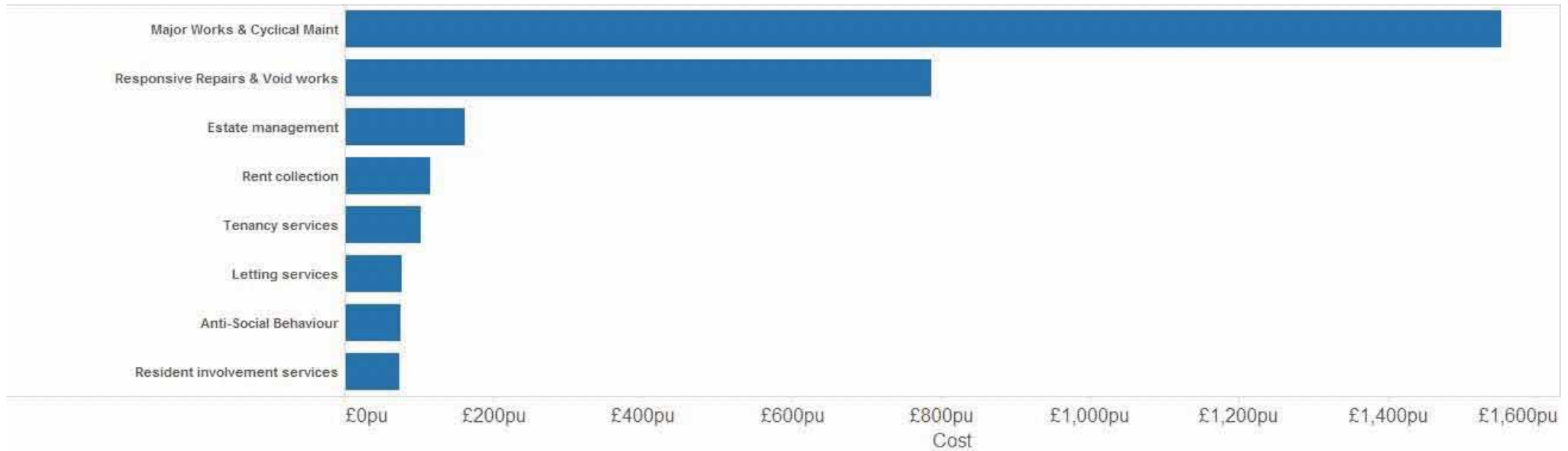


Data-led decisions





Data-led decisions

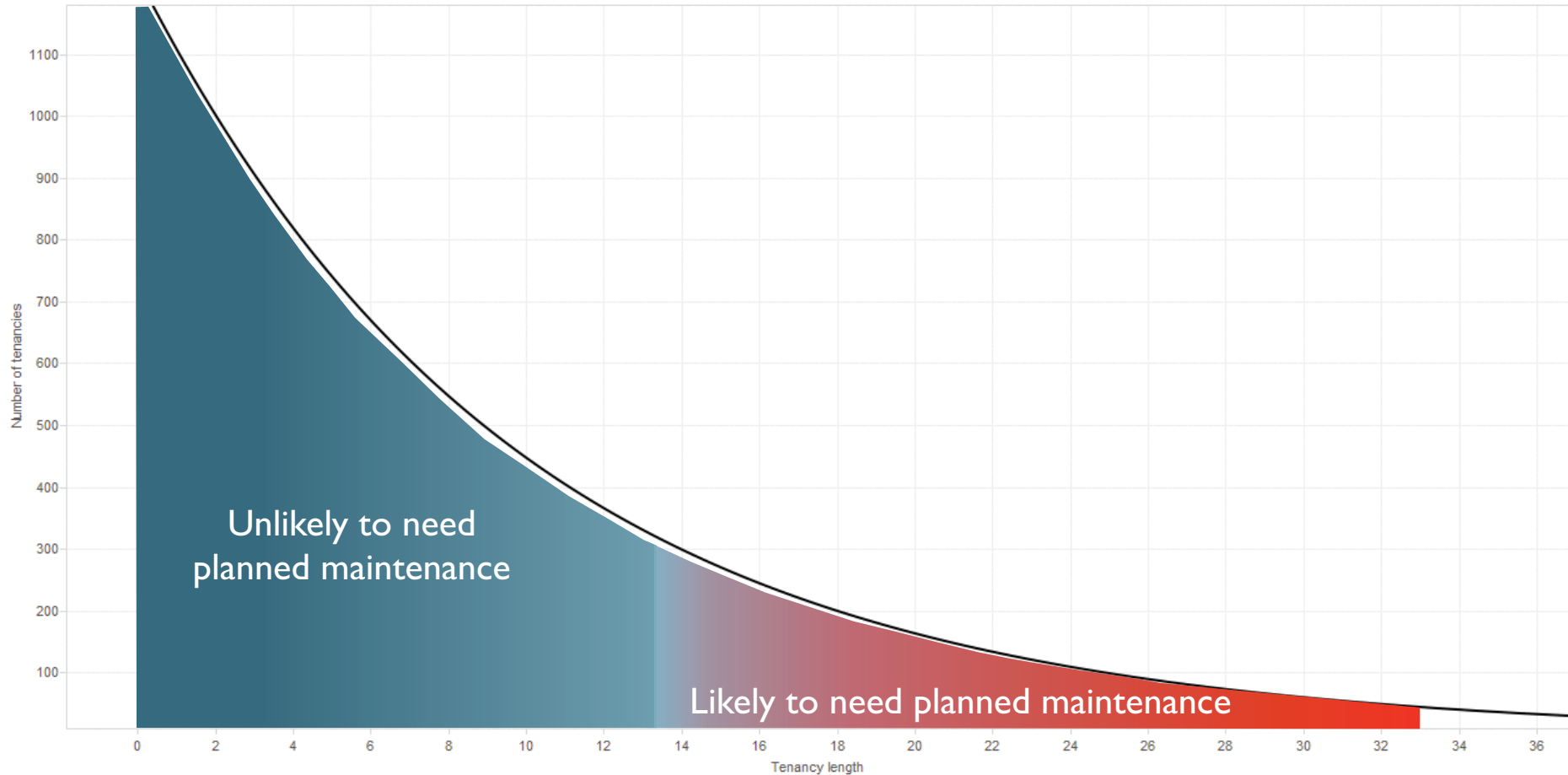


Data source

2012/13 regional data, Housemark

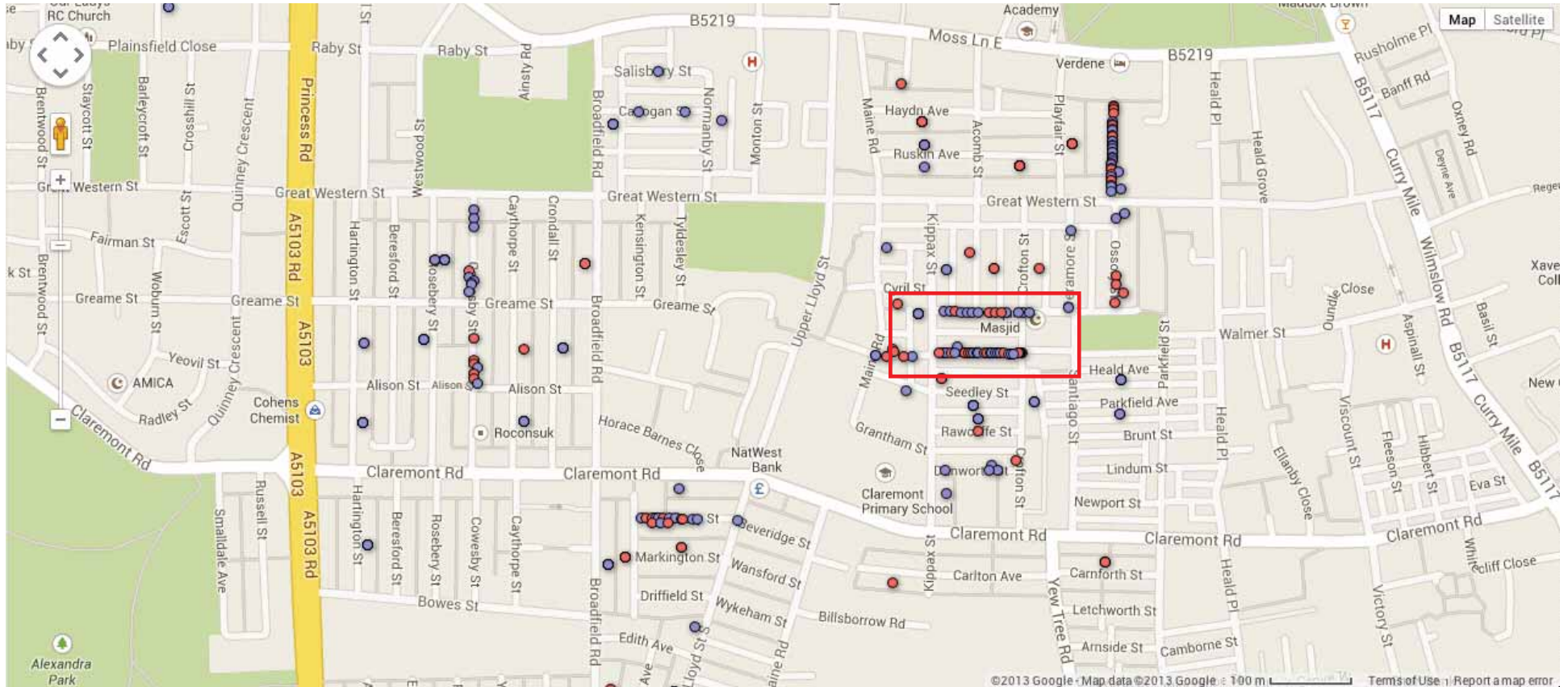


Data-led decisions





Data-led decisions





Data-led decisions



Housing 2.0

Principles



**Vision and leadership
to question old ways of working**

**Fully embrace the opportunities
from existing technology**

**Keep future technology paths
open and under review**

Old habits die hard

Housing Management Department (2008)



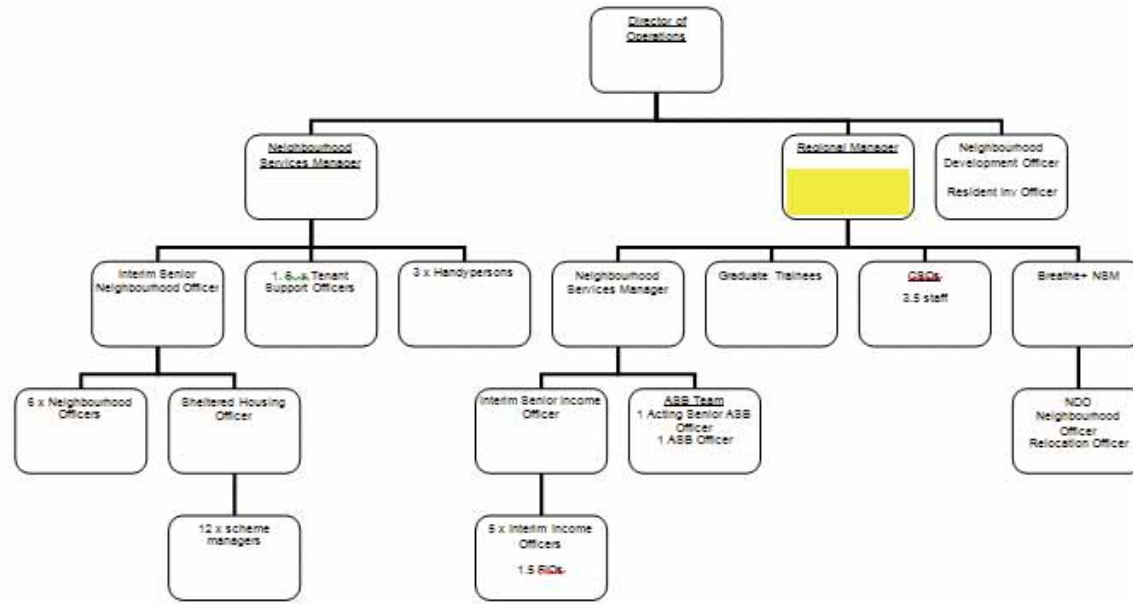
GROUP LTD - HOUSING MANAGEMENT STRUCTURE AS AT DECEMBER 2008

GROUP DIRECTOR OF
HOUSING
MANAGEMENT

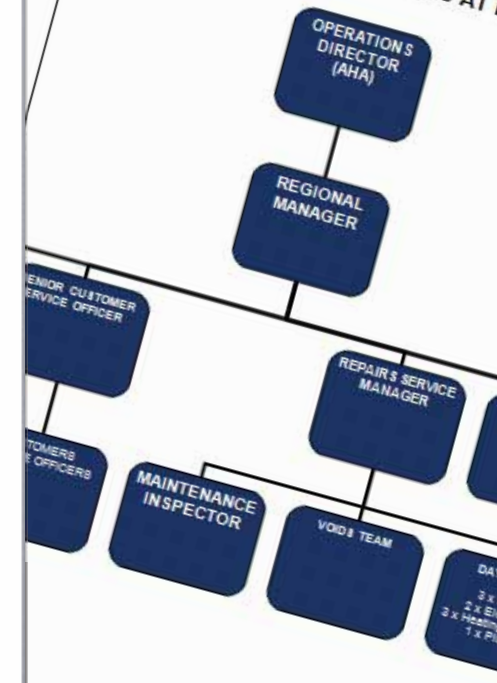
ADACTUS HA STRUCTURE SOUTH REGIONAL OFFICE AS AT DECEMBER 2008



CHORLEY COMMUNITY HOUSING STRUCTURE



NORTH AREA OFFICE AS AT DECEMBER 2008



Housing Management Department (2010)

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~~Housing Management Department~~

We're all housing managers now

Housing 2.0



**technology trends
and opportunities
for the housing sector**



Paul Lees and Brian Moran

www.adactushousing.co.uk