

Operability & You Build It You Run It at John Lewis & Partners



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**DEVOPS
ENTERPRISE
SUMMIT**

AN IT REVOLUTION EVENT

Definitely not John Lewis & Partners!



Adapting to change with a strong heritage



John Spedan Lewis believed in “fairness and humanity” & experimented to create the largest **employee owned business** in UK

JOHN LEWIS
PARTNERSHIP

JOHN LEWIS
& PARTNERS

WAITROSE
& PARTNERS



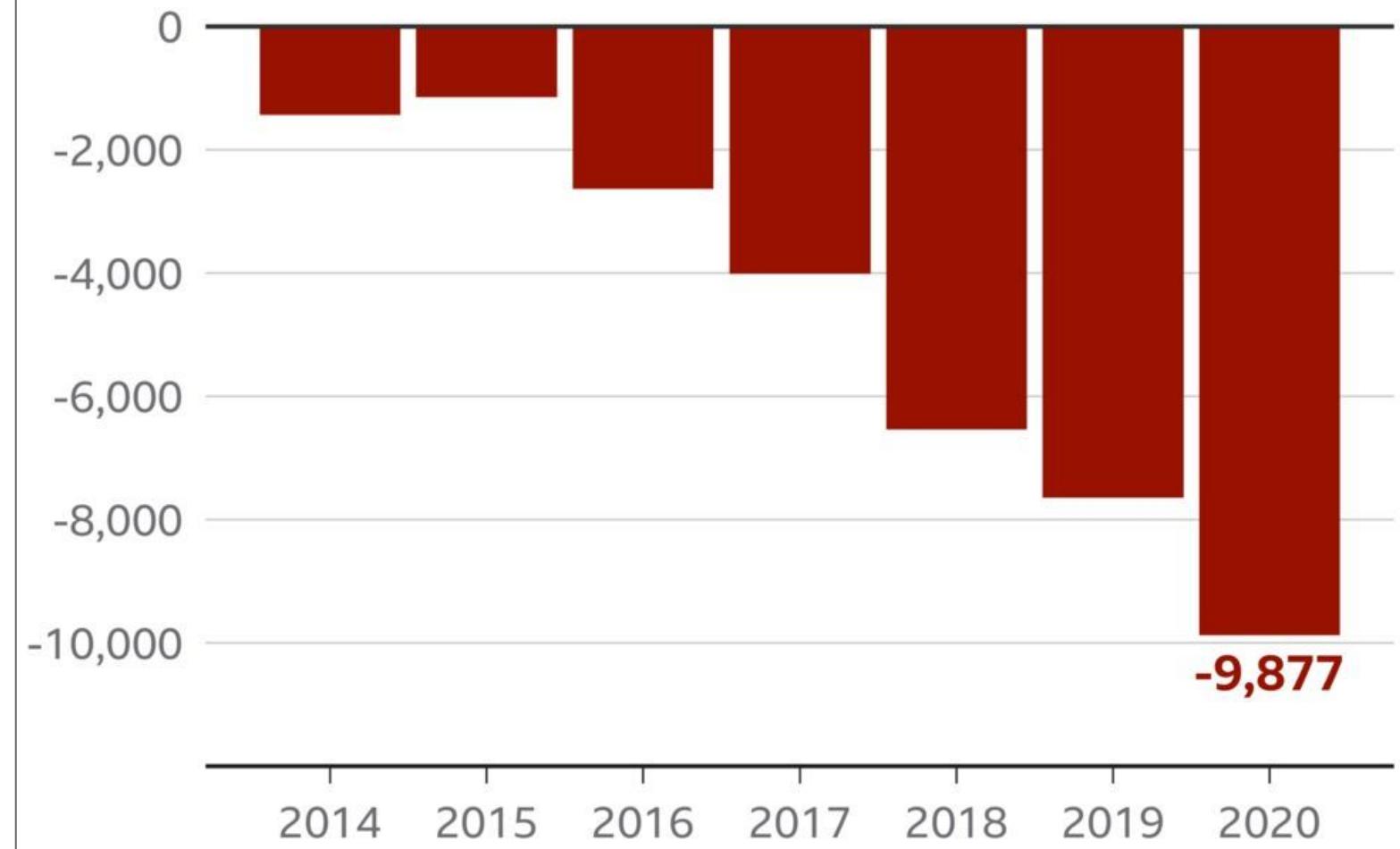
The ‘**official start**’ of **Christmas**!?



Retail was hit hard in 2019 and then came Coronavirus in 2020!



2020 saw almost 10,000 stores disappear
Net change between opening and closures



Source: PWC, Local Data Company

BBC

'Lockdown I': Virtual Services launched 2 weeks later!

VIRTUAL SERVICES & EXPERIENCES

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We've been with you every step of the way for 155 years. Which is why we've been exploring how to keep bringing you the services you know and love, as well as new ways to get inspired. Think expert live talks from specialist Partners, virtual appointments, interactive masterclasses and more - live in your home.

You can now try:



VIRTUAL NURSERY ADVICE

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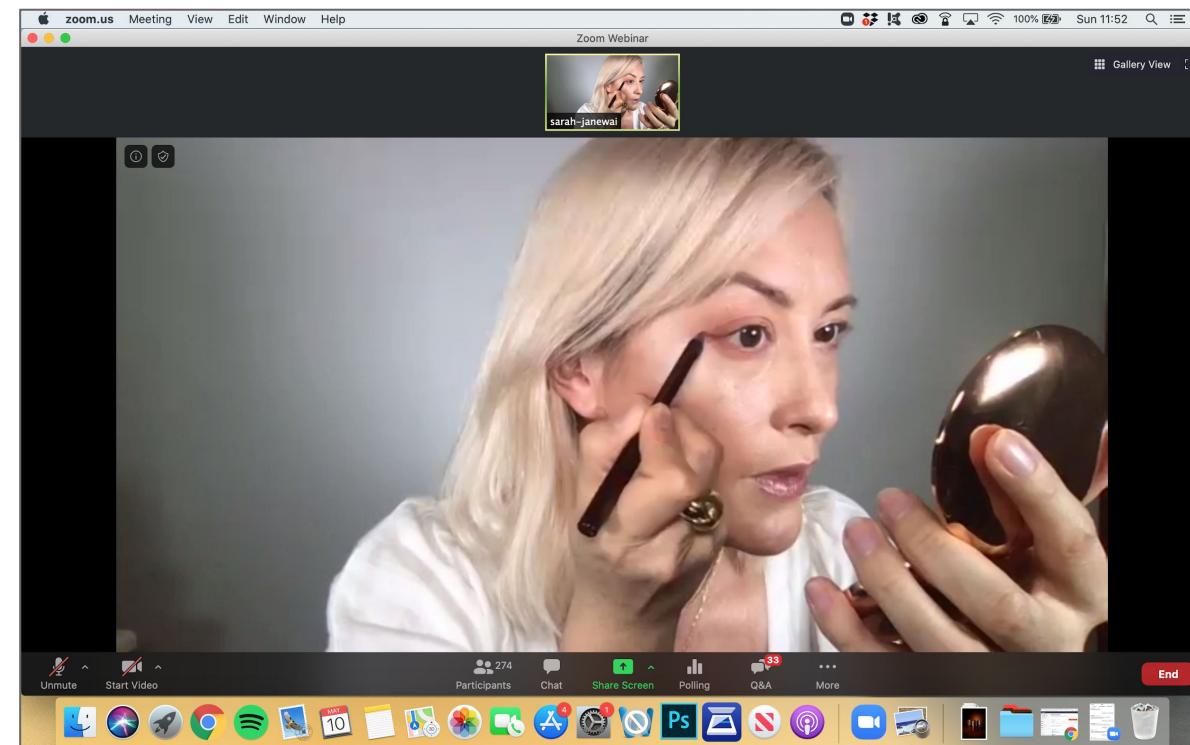
[Women's Virtual Personal Styling](#)



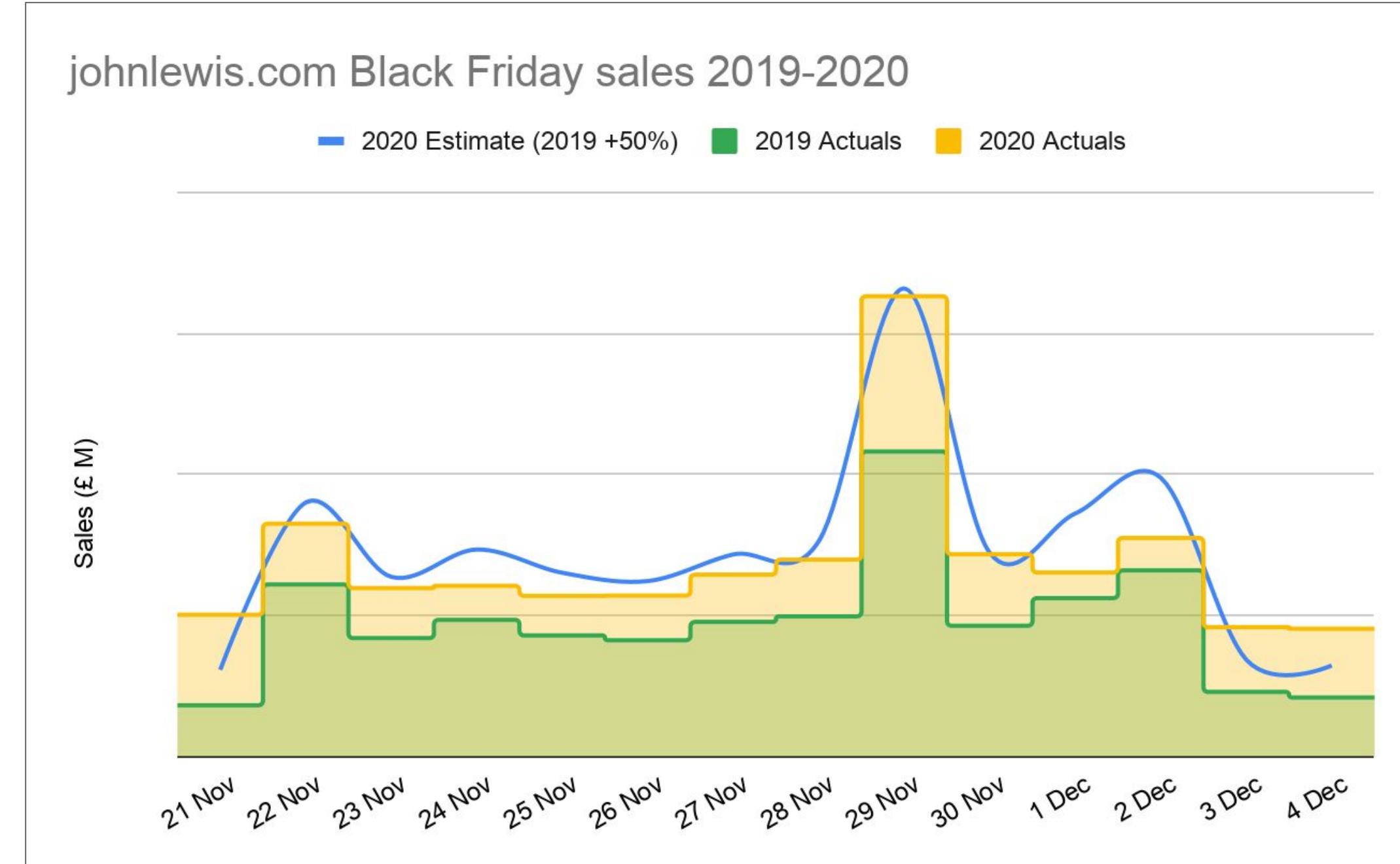
VIRTUAL HOME DESIGN

Our Home Design Stylists are here to show you how to make the most of your space, or finally tackle that interior project you've been thinking about.

[Find out more](#)



Coronavirus accelerated Online shift from Shops...

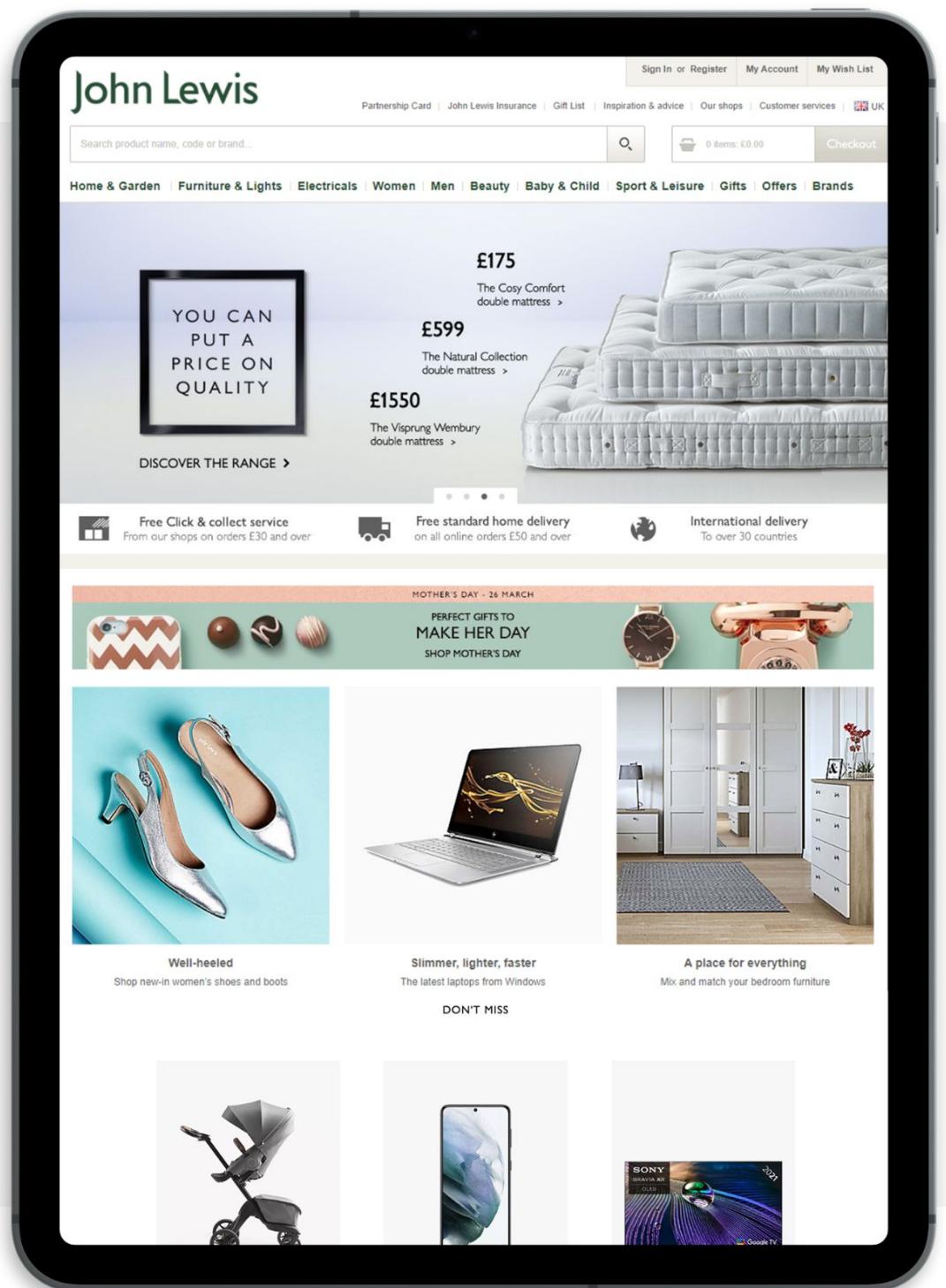


But after 3 years of investing in Digital, we were ready for 50% more in sales!

2017

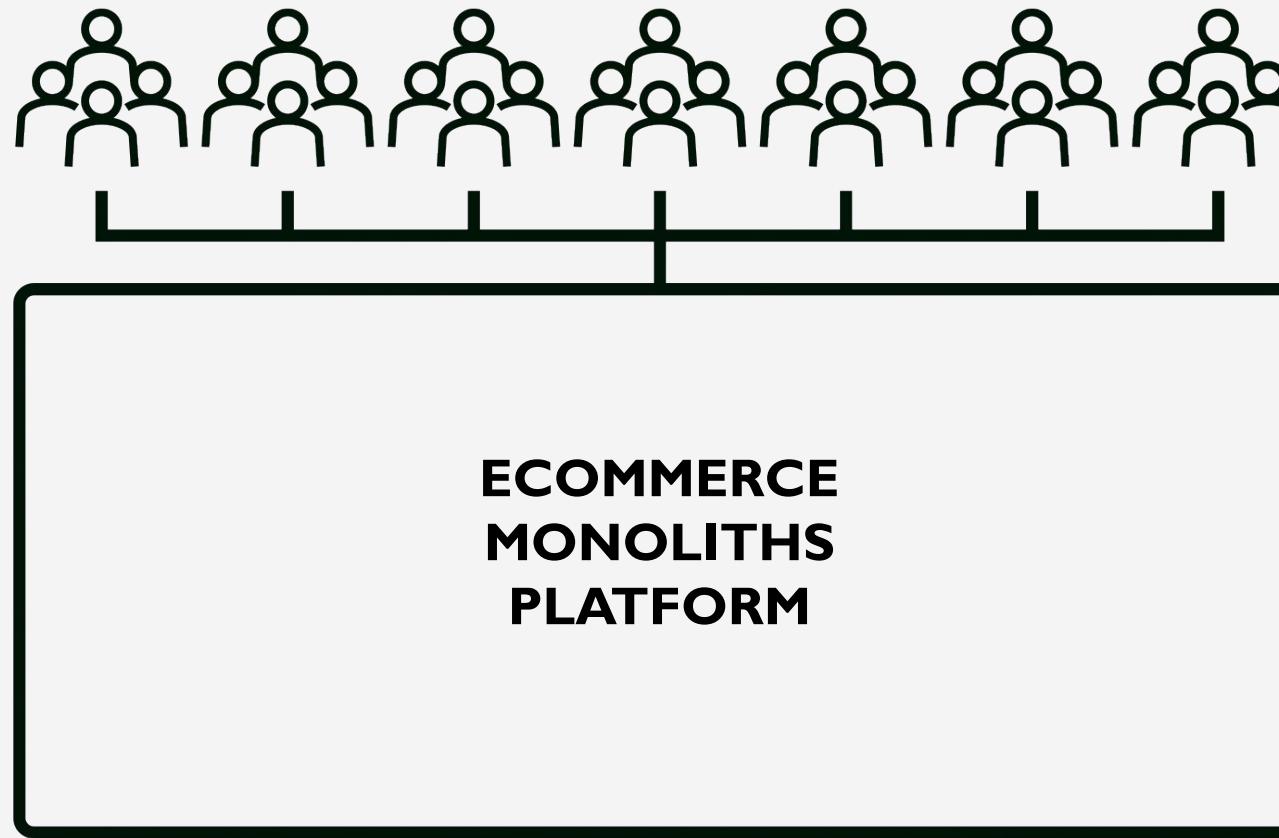
j o h n l e w i s . c o m c h a l l e n g e s

2017 johnlewis.com challenges



- **Speed to market too slow - we needed our technology stack to support, and not constrain rapid delivery**
- **Difficult to scale on-premise servers & the number of teams who could simultaneously deliver new features**
- **Majority of budget used for BAU - COTS package upgrades used the majority of our budget and resources, just to stay in support**

2017 johnlewis.com challenges

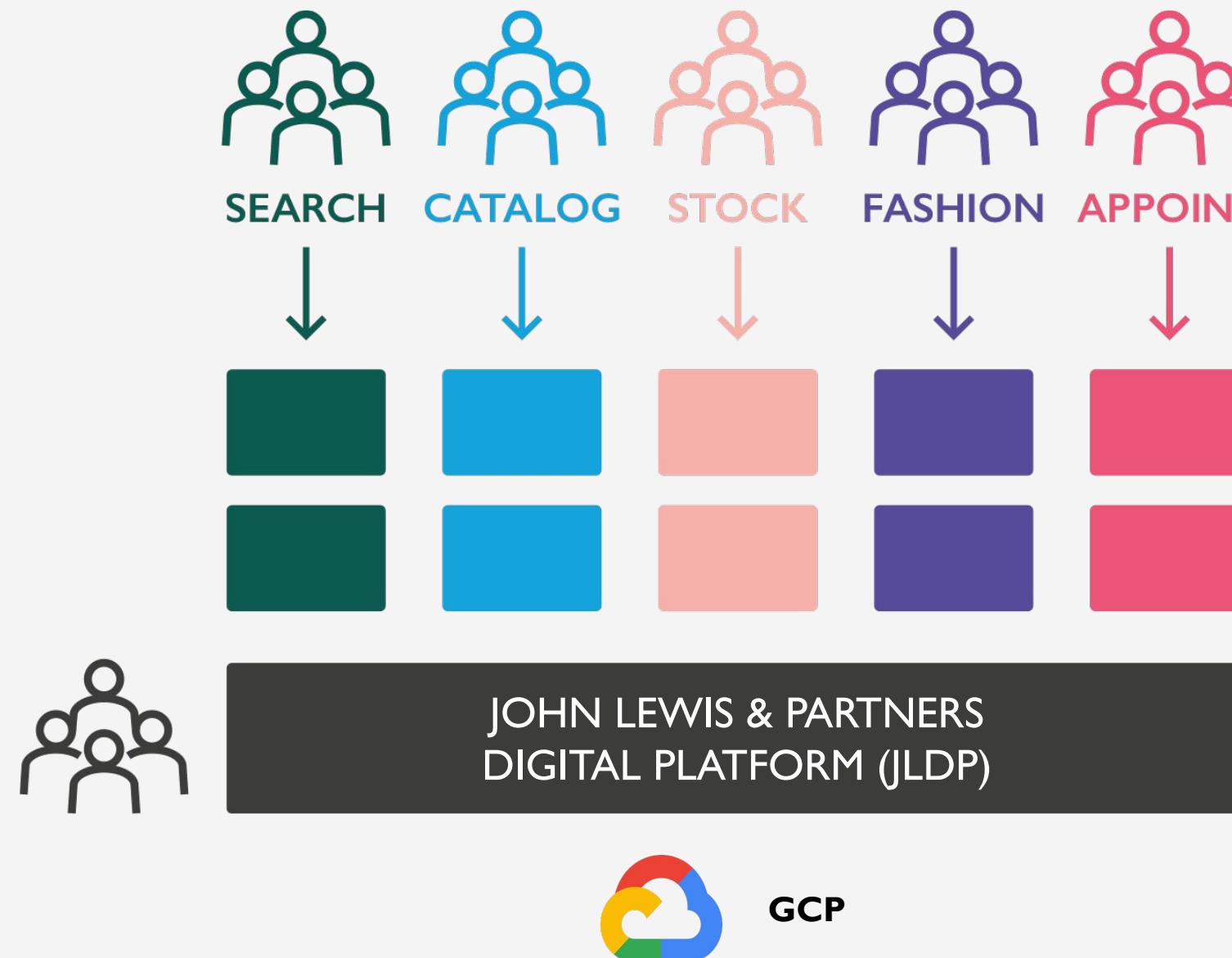


- Multiple COTS/bespoke monoliths
- 6 x project development teams
- 1 x operations team
- 10 x deploys a year
- Too many major incidents
- Too much rework
- £Ms in lost revenue - opportunity costs

2017 - 2020

W h a t w e d i d

2017 - 2020 timeline



- **Nov 2017 - 3 pilot product teams**
Commitment to digital platform and digital services. Pilot cross-functional product teams start.
- **Nov 2018 - 4 product teams**
Cloud search goes to 1% live traffic on JLDP. Pilot teams deemed successful. More teams start.
- **Nov 2019 - 25 product teams**
Multiple teams on-call for 100% live traffic. New propositions emerge. JLDP wins awards.
- **Nov 2020 - 30 product teams**
40 digital services, 100 microservices. Record levels of Black Friday traffic, no major incidents.

Seeking operability



- **Daily deployments and 99.9% availability** was the 2017 goal for digital services
- **Combined Delivery & Ops teams in 2000s were unsuccessful** due to overload from operational effort
- **Establishing operability was a priority** from the outset alongside Continuous Delivery

*How do you embed operability into digital teams at scale,
in an organisation that's 150 years old?*

Embedding operability



- **Grow awareness**
with You Build It You Run It
- **Identify concerns**
with leading and trailing indicators
- **Test proficiency**
with Chaos Days and live load testing
- **Embed principles**
with skills training and Partner opportunities

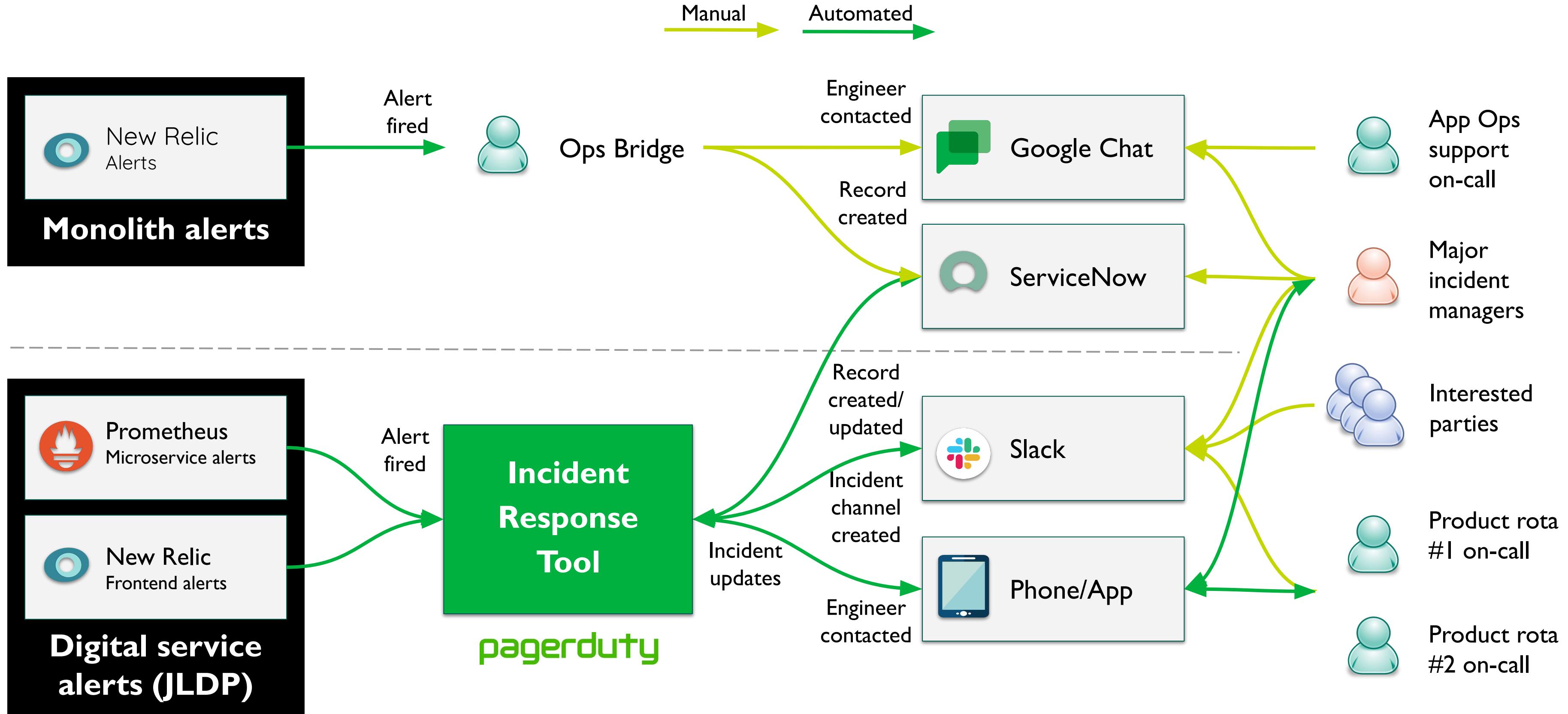
Grow awareness with You Built It You Run It

Maximum revenue loss in 1 month	Availability target	Out of hours support
<= £50K in <= 36 hours	95.0%	No on-call
£50K+ in <= 7 hrs 12 mins	99.0%	No on-call
£400K+ in <= 3 hrs 36 mins	99.5%	Product domain rota
£570K+ in <= 43 mins	99.9%	Team rota

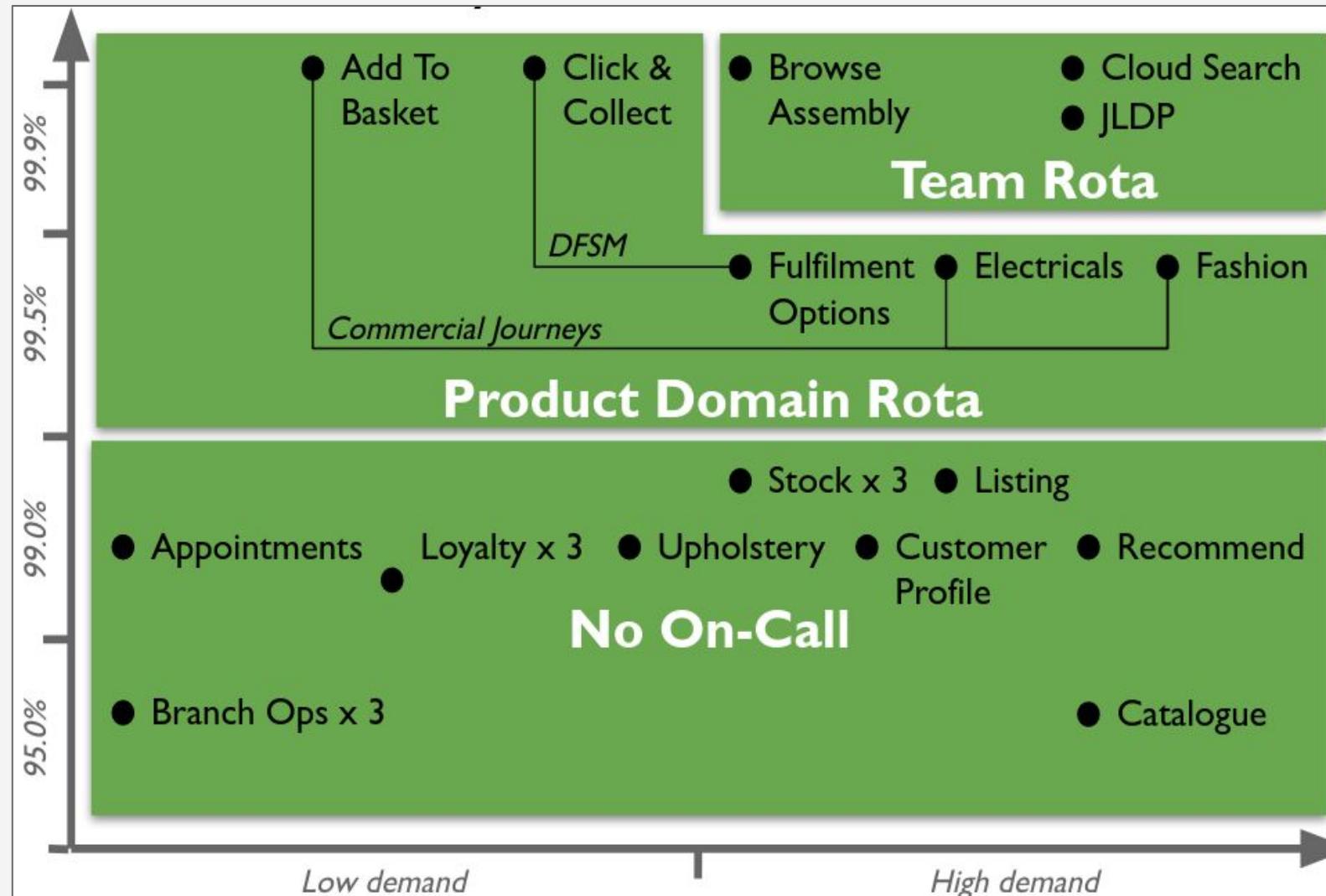
You Build It You Run It is insurance for business outcomes tied to digital services

- Operability incentives are maximised for product teams when they're LI support for 0300 callouts
- Availability targets and on-call levels are calculated from product managers estimating service revenue, and personal risk tolerances
- Different revenue levels equate to different availability levels, and different on-call levels

Grow awareness with You Built It You Run It



Grow awareness with You Built It You Run It



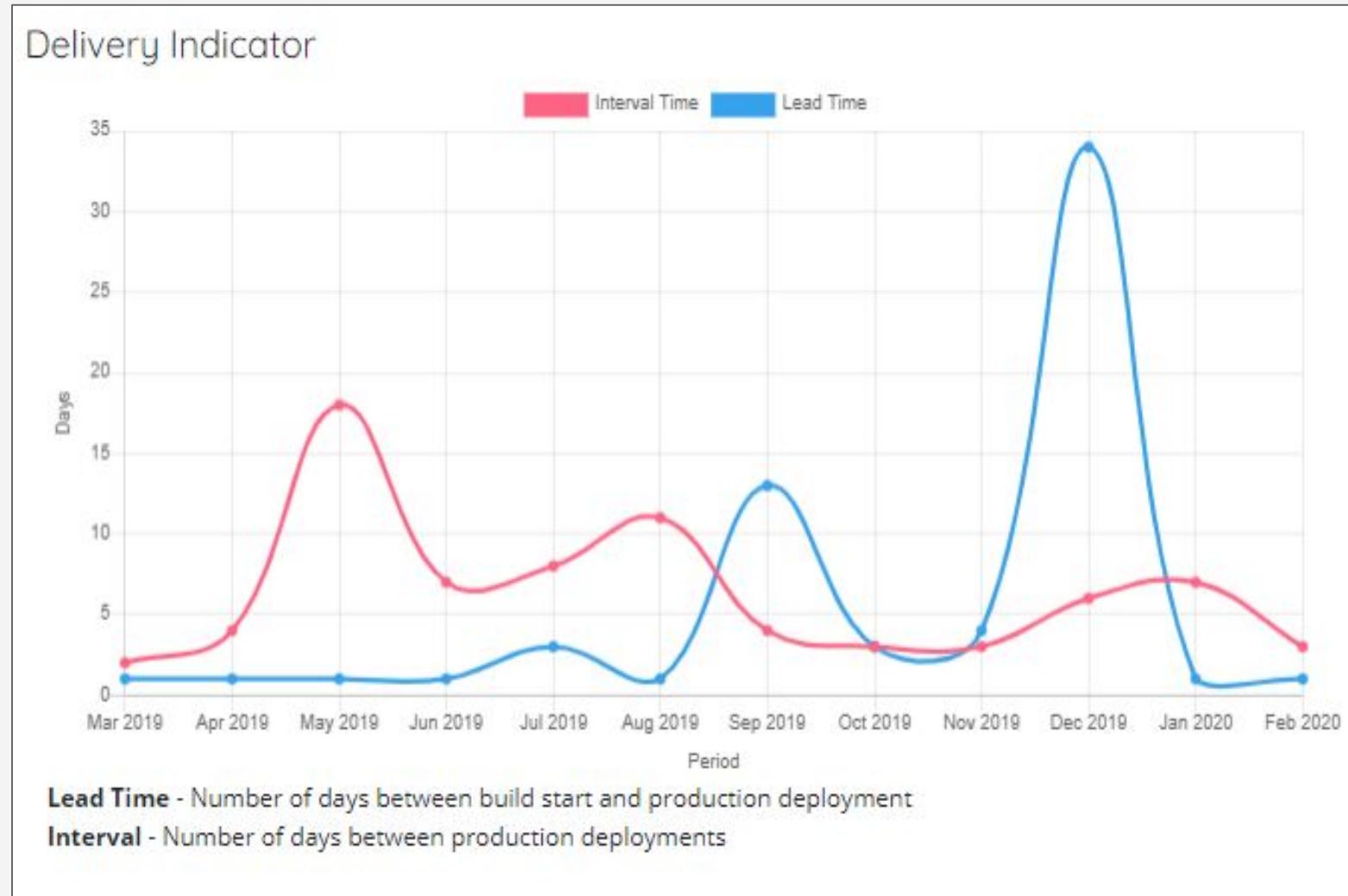
- Different on-call levels increase cost effectiveness at scale, without watering down operability incentives for product teams
- No on-call = no out of hours support, without an operations team fallback
- Product domain rota = teams in same product domain share one on-call rota together
- Team rota = team runs its own on-call rota for a critical service, until feature demand slows down

Identify concerns with leading indicators

Level	7 Days	30 Days	Assessments	Telemetry
Critical	100%	100%	0	3
Important	99.99%	100%	!	2
Critical	100%	100%	!	1
Supportive	100%	100%	!	2
Supportive	100%	99.92%	!	2
Supportive	100%	100%	!	3
Supportive	100%	100%	2	2
Critical	100%	100%	0	2
Essential	99.61%	99.73%	!	1

- Leading indicators of operability look for the presence of adaptive capacity, via automated checks and operability assessments
- Automated checks look for bespoke telemetry, on top of the JLDP setup out of the box
- Operability assessments are open-ended, exploratory, self-assessed questions for product teams on a quarterly basis

Identify concerns with trailing indicators



- Trailing indicators demonstrate adaptive capacity as used, via automated checks of service availability and deployment throughput
- Service availability is tracked as availability rate and time to restore availability
- Deployment throughput is tracked as deployment lead time and deployment frequency

Testing proficiency with Chaos Days



- Quarterly Chaos Days help us to uncover latent faults, before we have a live incident
- Chaos is created in a test environment, targeting JLDP itself or a product domain of digital services
- Time to complete follow-up tasks is measured as another leading indicator of operability

Testing proficiency with live load tests



- Monthly live load tests show us how recent changes impact our Black Friday capacity
- Customer behaviour profiles are compressed and skewed to simulate the Black Friday traffic profile
- Post-test analysis is shared by product teams to remove faults and protect Black Friday capacity

Embedding principles with Partner enablement



- Creating learning opportunities and new roles for Partners has been a priority from the start
- A dedicated Operability learning pathway and skills wheel is available to all Partner engineers
- Partner engineers in Operations teams have opportunities to move into product teams, or onto JLDP itself

2020

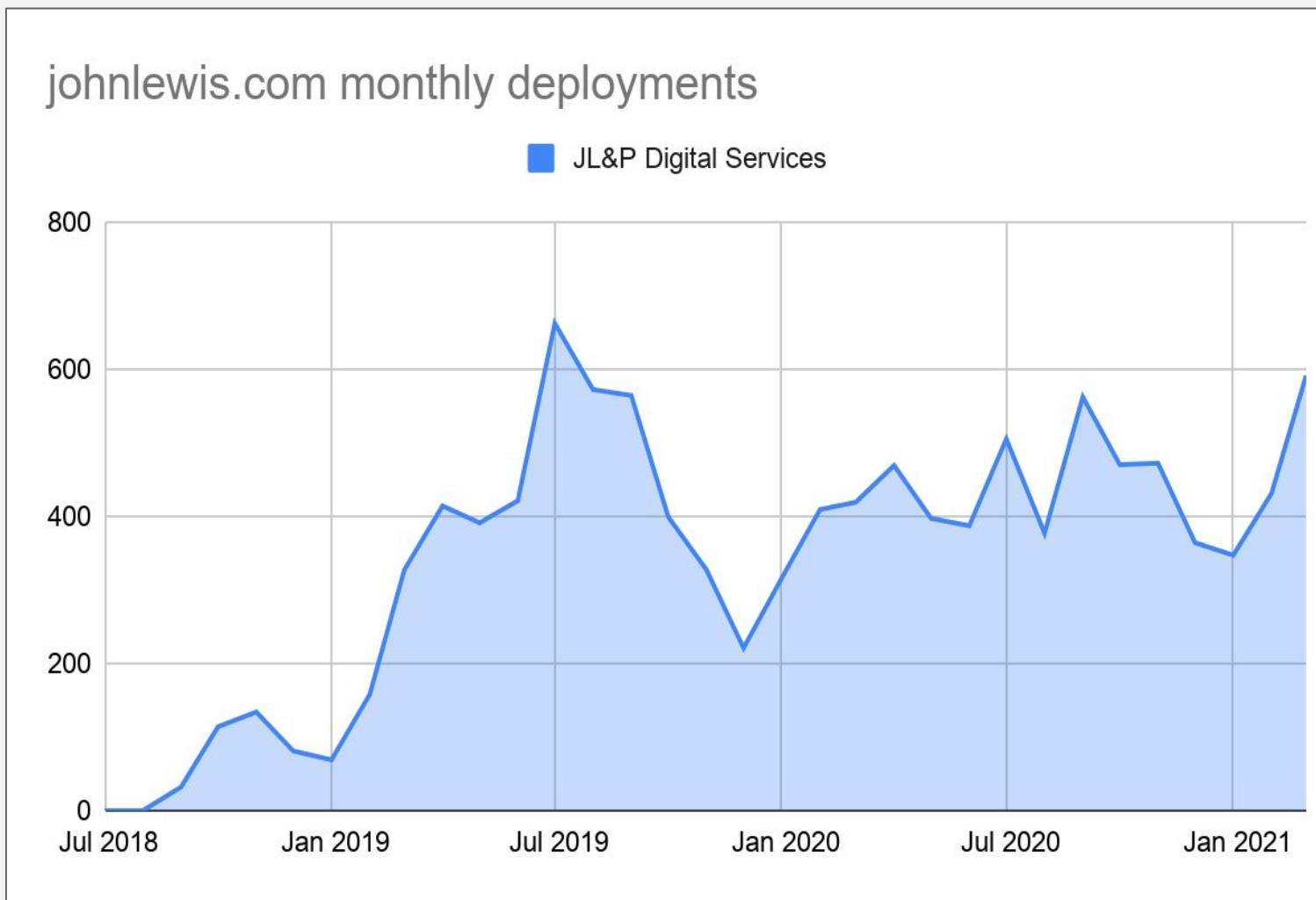
j o h n l e w i s . c o m o u t c o m e s

johnlewis.com deployment throughout

Deploys

From 10 to **5000** a year for johnlewis.com

From monthly to **daily** deploys for most teams



Time to first customer

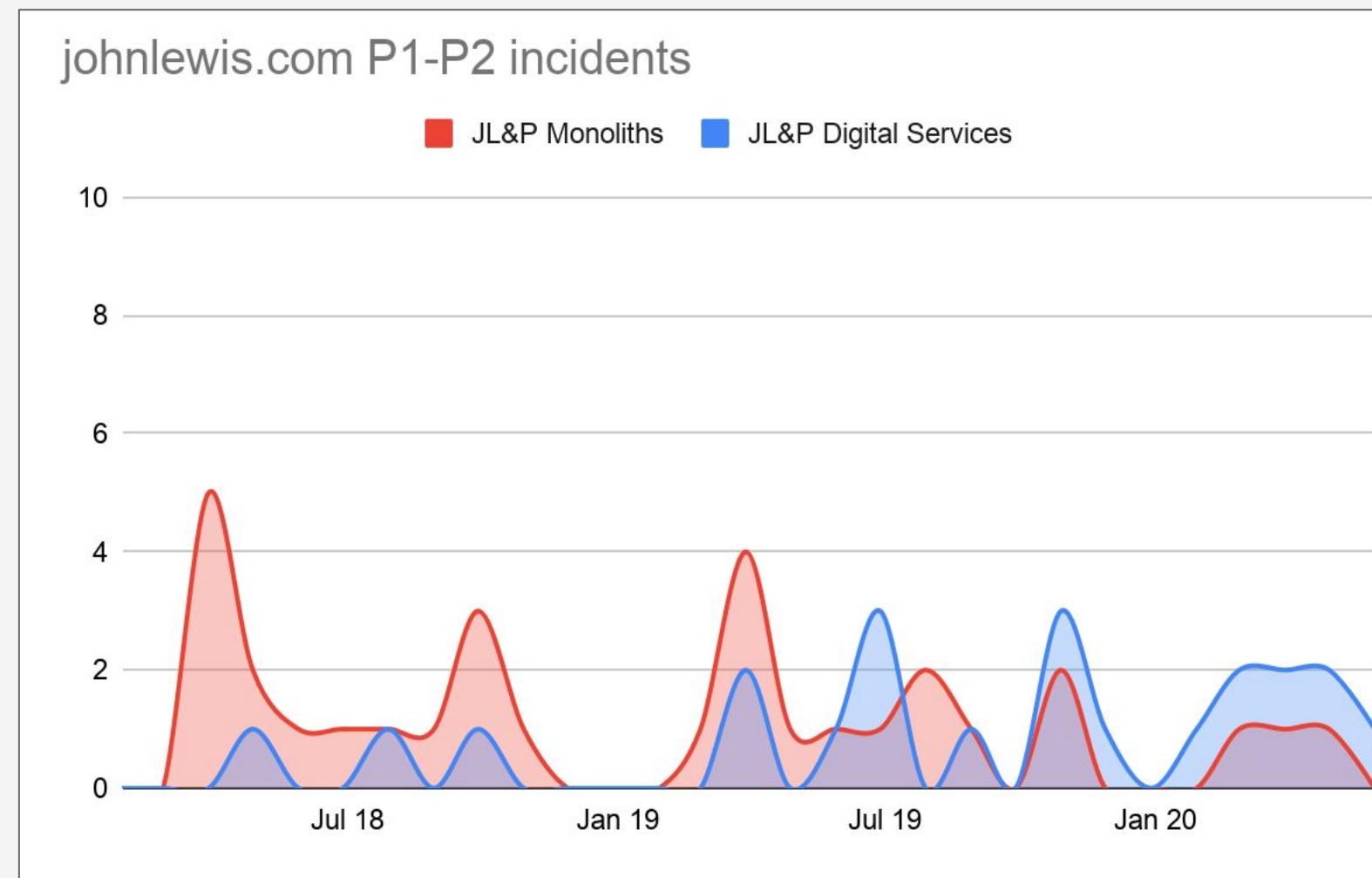
From months to **90 days** on average for time to 1% live traffic

Service Creation	Onboarding	Live To Customers	Status
22 hours	1 day	70 days	Live Customers
7 hours	17 days	74 days	Live Customers
143 hours	96 days	259 days	Live Customers
1 hour	40 days	308 days	Live Customers
1 hour	4 days	30 days	Live Customers
3 hours	7 days	40 days	Launching
1 hour	18 days	65 days	Live Customers
3 hours	2 days	113 days	Live Customers
25 hours	66 days	153 days	Live Customers
1 hour	17 days	42 days	Live Customers

johnlewis.com service reliability

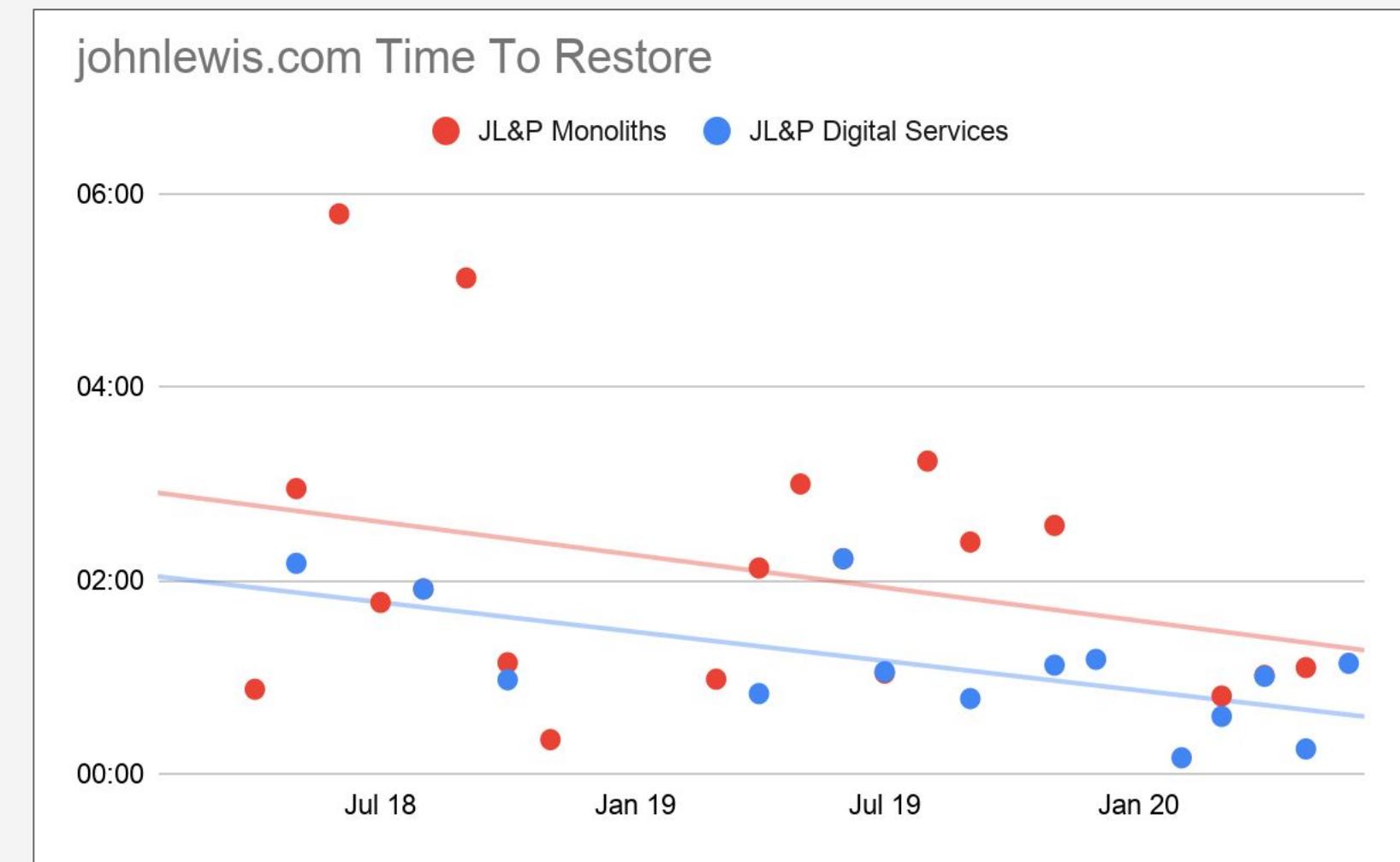
Incident rate

No significant increase in P1-P2 incidents



Time to restore

From hours to restore to **less than an hour** for most major incidents



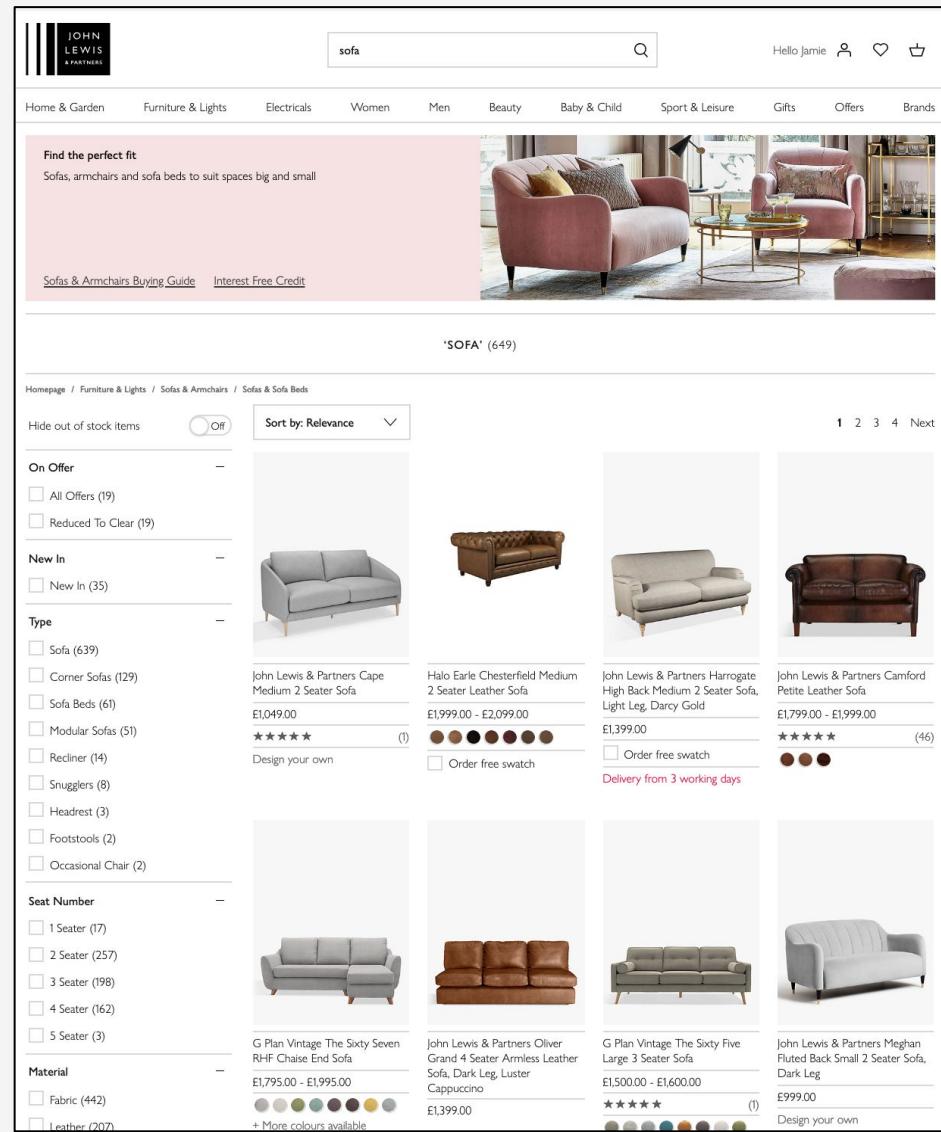
johnlewis.com service reliability

Operating Model	Operating Scope	Average Deploy Frequency	PI-P2 Incidents	Handoff Rate	Average Time To Restore	Revenue Protection Effectiveness
You Build It You Run It	6 x digital services 4 rotas	7x faster Daily	2x lower 6	1.5x lower 17%	3x faster 49 mins	3x higher 65%
3rd Party Managed Service	3 x monoliths 1 rota	Weekly	13	31%	2 hrs 11 mins	-204%

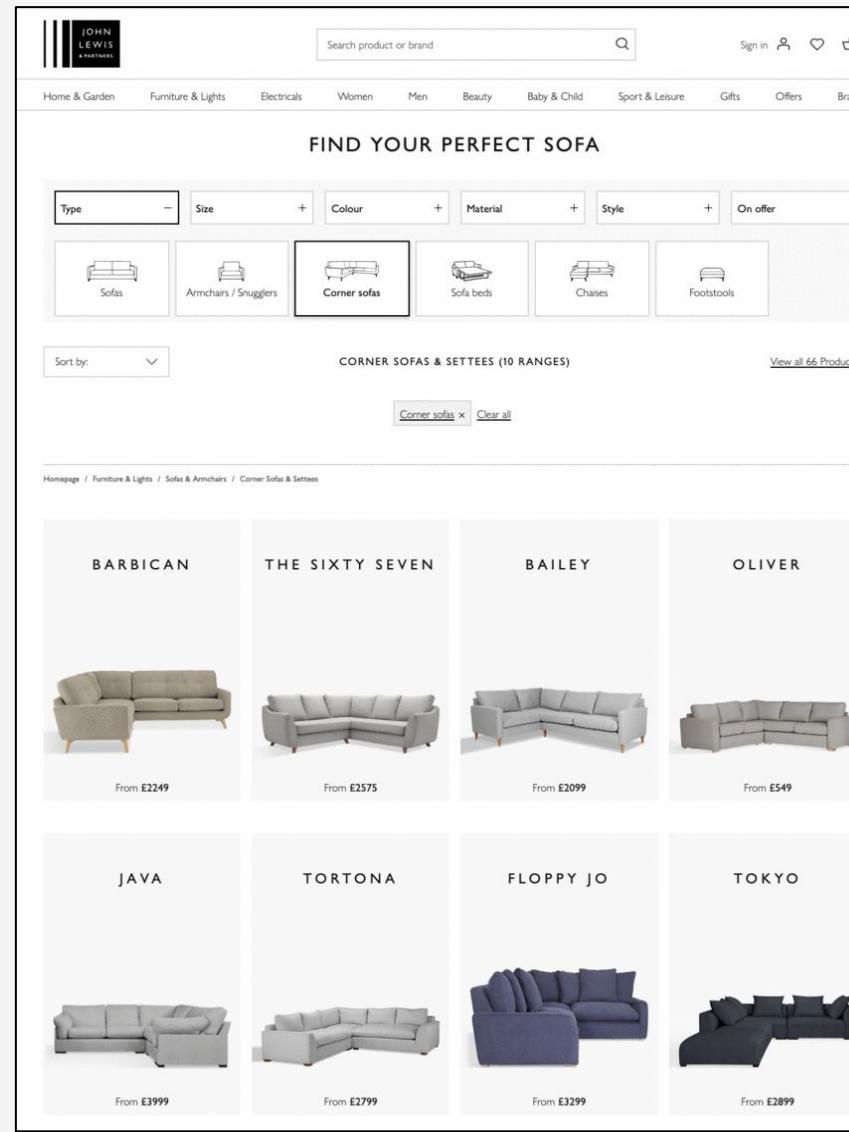
2019-2020 incidents

Testing & Learning enabled by deployment throughput

This was our first 'Beta' on the website, utilising our Shop Selling Partners knowledge, allowing us to get feedback and put improvements Live within the same day!



The screenshot shows the John Lewis website's search results for 'sofa'. The search bar at the top contains 'sofa'. Below it, a banner for 'Find the perfect fit' features a pink sofa. The main search results show several sofa options, each with a price, a star rating, and a 'Design your own' link. On the left, there are filters for 'On Offer', 'New In', 'Type' (including 'Sofa', 'Corner Sofas', 'Sofa Beds', etc.), 'Seat Number' (1 Seater, 2 Seater, etc.), and 'Material' (Fabric, Leather). The results are sorted by relevance.



The screenshot shows the same search results for 'sofa' after improvements. The interface has been simplified, with fewer filters on the left and a more prominent search bar at the top. The sofa options are displayed in a grid format, each with a price, a star rating, and a 'View all 66 Products' link. The overall layout is cleaner and more modern.

But this still may be
not good enough for Boris...?!



2021

Current johnlewis.com challenges

2021 johnlewis.com challenges



- **Achieving the best value support model** with on-call support costs being spread across many more teams
- **Removing the safety-net** of a 24x7 Managed Service support model
- **Evolving Service Management (ITIL)** to become more agile!

Takeaways

How do you embed operability into digital teams at scale, in an enterprise organisation that's over 150 years old...?

- **Test, learn, & continually evolve** your operating model
- **Think about operability as early as possible** to ensure sustainability
- **Maintain visibility of operability** with both leading & trailing indicators to keep on track
- **Encourage little and often deployments** wherever possible, to increase agility and reduce the blast radius of deployment issues or bugs
- **Adopt You Build It, You Run It** for all product teams, to maximise operability incentives and create cost effective insurance for business outcomes

Thank you!

Work at John Lewis & Partners Digital

- **John Lewis & Partners Jobs**
<https://www.jlpjobs.com/head-office/it/>

Talks

- **John Lewis & Partners at Christmas** - *Sandra Christie et al, JL&P Tech Profession Lead*
<https://www.youtube.com/watch?v=rIGVrnmnrr0>

Articles

- **Our Award Winning John Lewis Digital Platform** - *Rob Hornby, JL&P Platform Product Owner*
<https://medium.com/john-lewis-software-engineering/our-award-winning-john-lewis-digital-platform-2d093e03d542>
- **Team Nimbus and the Agents of Chaos** - *Alex Moss, JL&P Platform Engineering Lead*
<https://medium.com/john-lewis-software-engineering/team-nimbus-and-the-agents-of-chaos-ab257e41fe36>
- **EE playbooks - Digital Platforms, Chaos Days, You Build It You Run It**
<https://www.equalexperts.com/playbooks>