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# Innovation at the Speed of Sound



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## This presentation will cover

- An introduction to LSSL
- An outline of the challenges facing a modern service
- How digitisation can assist in meeting these challenges & increasing the quality of service delivery
- The benefits achieved so far
- Future Improvements





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## Innovation at the Speed of Sound Part 1:

### Introduction to LSSL & Overview of Key Challenges





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## Introduction to LSSL

LSSL was formed in 2016 and is responsible for delivering the following contracts on behalf of Liverpool City Council (c. £28 mill contract value):

- Refuse & Recycling
- Street Cleansing
- Grounds Maintenance

Later in 2018 came.....

- Parks & Cemeteries
- Highways & Lighting

And new for this year .....

- Winter Maintenance (2020 onwards)





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## LSSL's services

So, what do our services look like:

- 240,000 properties to visit
- 16.8million waste collections per year
- 1.43million metres of streets to cleanse
- 10 km<sup>2</sup> of parks to maintain
- 90,000 gullies to cleanse
- 75,000 street lights to maintain
- 150,000 trees to maintain
- 2,000 litter bins to empty







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## Liverpool - A city that brings you Innovation



Cleaner, Greener, Together





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## A successful story so far

- Created more than 100+ job opportunities for local residents
- Achieved APSE upper quartile for missed bins
- Introduced 20 new CNG vehicles
- Efficiency savings of £4.1m
- Increased commercial income by 100%





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## Challenges facing a modern service

- Budget pressures
- Do more with less
- Climate emergency & fleet replacement
- Longstanding infrastructure issues
- Inherited processes
- Silo working



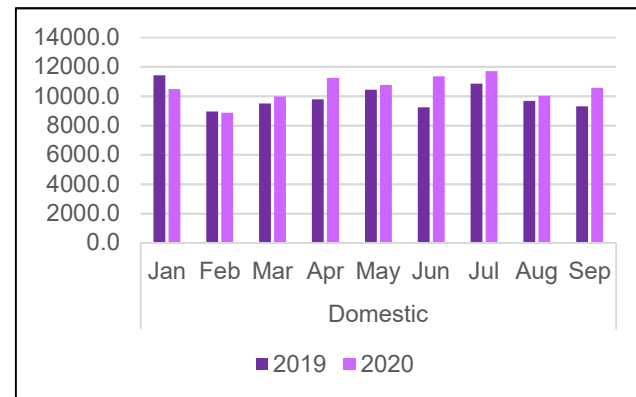




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## Additional COVID19 challenges

- Up to 23% increase in domestic tonnages
- Up to 47% increase in recycling tonnages
- 42% increase in Fly Tipping
- Staff absence rates increased by an additional 15%
- Requirement to adapt working practice, train & redeploy resource to ensure business continuity





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## Innovation at the Speed of Sound Part 2:

## Innovative New Ways of Working & the Benefits Achieved



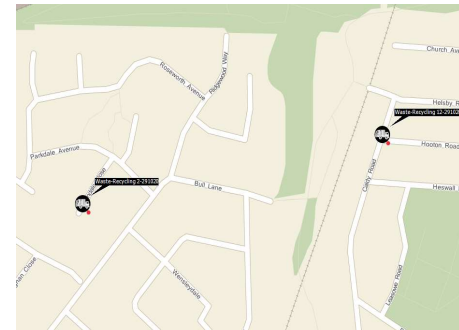


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## Digital Innovation Part 1: New ways of working for frontline operatives

### InCab system live as of May 2020

- Bartec Collective mobile working “InCab” technology
- Procured in Feb 2020, went live in May 2020
- Units currently installed in all recycling vehicles
- Residual vehicles 50% complete.
- Commercial Waste project scheduled for 2021
- Implemented remotely during lockdown
- 2-way communication between crews and back-office
- Vehicle tracking solution
- Data made accessible to contact centre via web portal



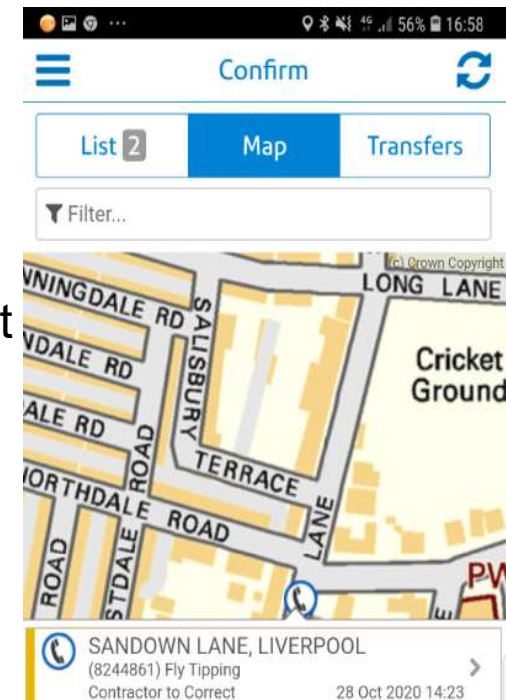


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## Digital Innovation Part 2: New ways of working for reactive teams

### Process digitisation

- Longstanding 'pen & paper' job flow processes
- Reactive work now managed through Confirm Connect
- 14,000 fly tipping jobs per year managed digitally
- 17,000 bin delivery jobs per year managed digitally
- Plus grass cutting, litter & graffiti removal requests
- Streamlined end-to-end digital processes
- Improved response times
- Reduction in double handling





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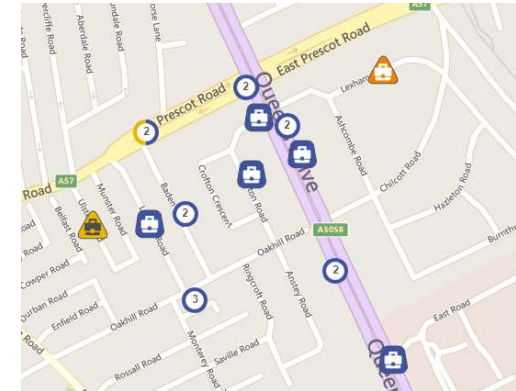
## Digital Innovation Part 3: New ways of working for supervisors

### Dynamic Job Scheduling

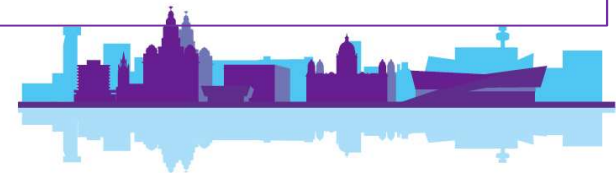
- Intelligent job scheduling via Confirm Workzone
- Jobs assigned to gangs based on capacity & location
- Reduction in crew travel times & improved KPIs

### Agile Operational Management

- Live telematics via Bartec InCab Solution
- Real-time dashboard reporting
- All systems available on PCs, tablets, smartphones
- Supervisors working agile!



Workpack Name	Job Count	Crew Size	Progress	Completion Status
Waste-Alt. Allev Round 2-031120	0	1	100%	
Waste-Cape Round-031120	0	1	100%	
Waste-City Centre Rec-031120	0	1	100%	
Waste-Domestic 10-031120	946	1	100%	
Waste-Domestic 16-031120	1606	1	89%	
Waste-Domestic 19-031120	0	1	100%	
Waste-Domestic 20-031120	0	1	100%	
Waste-Domestic 6-031120	2074	1	93%	
Waste-Inspections-031120	0	1	100%	
Waste-Intervention-031120	0	1	100%	
Waste-Multi 2-031120	0	1	100%	
Waste-Recycling 10-031120	1327	1	80%	
Waste-Recycling 1-031120	1077	1	87%	
Waste-Recycling 11-031120	1405	1	100%	
Waste-Recycling 12-031120	1255	1	100%	
Waste-Recycling 13-031120	2042	1	100%	
Waste-Recycling 14-031120	1283	1	93%	
Waste-Recycling 2-031120	1176	1	81%	
Waste-Recycling 3-031120	1407	1	28%	
Waste-Recycling 4-031120	985	1	100%	







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## Digital Innovation Part 4: New ways of working for management & business support

### New Kit

- Acceleration of agile working in response to pandemic
- New laptops, phones and tablets
- Mass shift towards home working

### Increased Connectivity

- Remote desktop solution rolled out initially
- Replaced by virtual desktop solution October 2020
- Office 365 solution delivered November 2020
- The new world of Teams, Zoom & Skype





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## Fleet Innovation

### Climate Change Emergency

- Climate change emergency declared July 2019
- Mayoral Target – diesel free city centre by 2020
- Mayoral Target – diesel free city by 2020

### LSSL's Response

- Wide range of vehicles in use across LSSL
- Replacement process underway – CNG RCVs
- Introduction of electric cars & vans
- New vehicles = New technologies





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## Summary of Benefits Achieved

New systems &  
technologies  
Introduced

Streamlined &  
digitized processes

Improved response  
times & greater  
operational  
efficiency

Environmentally  
friendly operational  
delivery

Opportunity  
recognition in a  
challenging  
environment

Culture of  
resilience

Acceleration of  
long-term  
strategic aims





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## Where are we going in 2021?

### Increased Performance Visibility Infrastructure

- Street cleansing mechanical sensors
- Grounds maintenance mechanical sensors
- Winter Maintenance grit spreading sensors

### Smart Cities Infrastructure

- Smart litter bins that tell you when they are full
- Underground refuse system technologies

### New systems & working practices

- Staff rostering system
- Digital fleet management system
- Increase transition to customer self-service

