Increased interoperability by simplified sharing of IoT data
IoT enabled services for cities

**Example 1: Travel planner**
- IoT service
- IoT (data) platform
- IoT connectivity infrastructure
- IoT devices
  - GPS trackers from train and bus fleets
  - Traffic flow from cameras and phones

**Example 2: Smart parking**
- Static data sets
  - Time tables
  - Parking lots
- IoT devices
  - Video parking space counter
  - On-street parking sensor
  - Multi-story car park availability
Not all cities are created equal

Challenges for scaling IoT services to new cities

• Different users with different needs
• Different available IoT data sources
• Different IoT data formats
• Different stakeholders providing IoT data
• Different licenses / policies around IoT data use
• Different regulations

• Different connectivity infrastructure and different operators
• Different deployment site providers
• Different processes for procurement
• Different processes to obtain authorisation for deployments

Every new city is like a new market
Case 1: Suitable IoT data sources not available

- Requires new IoT infrastructure investments
- May require new connectivity infrastructure investments or connectivity fees
- Requires close collaboration and negotiations with local stakeholders
- May require navigating constraints such as procurement rules
- May require local partnerships for deployment

What connectivity infrastructure is already in place?

Is it accessible and under what conditions/costs?

Where can I deploy my IoT devices/infrastructure?

What are the conditions for deployment site access?

What permissions do I need to obtain for rollout?

What local regulations do I have to respect?

What local partnerships do I need for an IoT deployment
Case 2: Suitable IoT data sources already available

- Requires data discovery
- Requires data access negotiations
- Requires monitoring of data provision

Deploying an IoT enabled service in a new city

- Who owns/providers this IoT data?
- Can I use it - under what conditions?
- Is it available for my envisioned service duration?
- Is it reliable enough for my envisioned service?
- How much will I need to pay?
- How can I monitor agreed service level of data provision?
- How can I hold a data provider accountable for?
One-stop-shop for trusted data from IoT device in a city

Data providers

• can create offerings for their data so it becomes discoverable within the context of a city

• define appropriate licenses for the use

• have monetisation mechanisms available for different business models

Data users

• can discover suitable data sources and reputation of data providers

• avoid lengthy bilateral negotiation for terms for access and business use of data

• have the piece of mind of tracked license and service level agreements
Key features

Express: Define customisable and machine readable agreements

Settle: Digitally sign the agreement

Track: Create tamper proof audit trails
Synchronicity IoT data marketplace

Santander

Manchester

Synchronicity IoT Data Marketplace

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Santander Points of Interest
Summary

SynchroniCity IoT data market place

• First implementation of the MiM for ecosystem transaction system

• Based on TM Forum Business Ecosystem API

• Simplifies greatly onboarding of IoT data sources in new cities reducing and effort time to market

• Enables trusted sharing of IoT data to build sustainable smart city services
Thank you!

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