

Telstra Innovation Challenge 2019

Transport and Logistics – Problem Statement

Problem Statement: We want to develop innovative IoT solutions for the Transport and Logistics industry, to improve the operational and field-staff experience and provide new value to the market.

Theme 1: Improve the operational and field-staff experience

Use IoT to improve the operational interactions and processes in the T&L industry.

1. **Driver availability**

Help reduce the complexity associated with human interaction (e.g. phone calls, multiple apps) when seeking information from field staff, giving the ability to quickly plan for customer orders; Bringing demand to supply more efficiently.

Examples: Subcontractor Capacity, Subcontractor asset & Driver availability

2. **Warehouse operational efficiency and reliability**

Improve the operational efficiency, reliability and safety associated with warehouse services provided in the T&L industry.

Examples: Security, inventory management, container stuffing / de-stuffing, order fulfillment, distribution

3. **Safety and wellbeing**

Develop an IoT solution that can help improve safety and wellbeing of field staff across the network.

Examples: Mitigation of fatigue and other risks, Automated warning and/or reporting systems

4. **Develop a new, useful tool for the network.**

IoT can be used as the foundation for new tools which may be of use to field staff across the network.

Theme 2: Provide new value to the market

Use IoT to target new customers, introduce new services and improve existing services offered in the T&L market. Investigate new value that we can bring into the world.

1. **Customer freight tracking**

Improve the visibility of tracking customer freight through the Linfox network. Give the customer a single data source from pickup to delivery.

Examples: Customer visibility of freight, Real-time ETAs of deliveries, Proof of deliveries (PODs), Freight quality monitoring and assurance (like fresh produce)

2. **Existing services**

Transport and logistics services also include warehousing, supply-chain solutions and more. How can these services be improved using an IoT device and platform?

3. **New services**

IoT can create new opportunities for value in the transport and logistics industry. Conceptualise and explore one of these opportunities.

Examples: A service targeting a new customer segment, A service targeting existing customer segments

4. **Social and environmental responsibility**

Value can be social and environmental; find ways to provide this value.

Examples: Reducing underutilised capacity, Improving fuel efficiency, Improving experience and wellbeing of other road users, Collaborative technologies with the road authority to improve road safety and quality

Participants are also free to deviate from the listed categories to any Transport and Logistics problems identified through research.

Some aspects to consider when developing your IoT solution:

- Cost efficiency
- Administrative overhead
- Interference with other systems
- Visibility of assets (vehicles and trailers)
- Availability to work (location, vehicle capacity, driver availability, destination)
- Freight visibility in transit
- Real-time monitoring
- Proof of deliveries

Example measurements using IoT sensors

- Weight of cargo / load in truck
- Distance travelled
- Physical location (GPS or otherwise)
- Time in motion (measured using accelerometer?)
- Cargo temperature/ temperature inside container/ temperature outside container
- Humidity inside container
- Vibrations experienced by cargo (tracked using accelerometer)
- Number of items passing point X (on conveyor belt / into truck / out of container)
- Quality control of shipped product (provided by computer vision via camera)
- WHS - Noise level (microphone sensor)
- Security - check for humans / animals (infrared sensor)

Examples of people/groups that would find this information useful:

- Customers
- Operations
- Subcontractors
- Receivers
- Suppliers
- Compliance