# States and State Transitions: P20 Food Safety

## Overview

The food safety smart contract covers a provenance scenario with IoT monitoring. It is an instance of a supply chain transport scenario where certain compliance rules must be met throughout the lifecycle of the product, from production to commercial point of sale. The initiating counterparty specifies the humidity and temperature range the measurement must fall in to be compliant. At any point, if the device takes a temperature or humidity measurement that is out of range, the contract state will be updated to indicate that it is out of compliance.

All participants can view the state and details of the contract at any point in time. The counterparty doing the transportation will specify the next counterparty responsible, and the device will ingest temperature and humidity data, which gets written to the chain. This allows the Supply Chain Owner and Supply Chain Observer to pinpoint which counterparty did not fulfill the compliance regulations if at any point in the process either the temperature or humidity requirements were not met.

## Roles

|  |  |
| --- | --- |
| **Name** | **Description** |
| Initiator | First person in the chain to enter product for tracking |
| Concluder | Person who removed product from tracking |
| Responsible Party | The person currently responsible for the product |
| Device | The mechanism used to monitor the temp/humidity of the product |
| Owner | Owner of the product |
| Observer | Individual or organization monitoring the product |

## States

|  |  |
| --- | --- |
| **Name** | **Description** |
| Created | Item has been entered for tracking |
| Completed | Item is no longer being tracked |
| Compliant | Item is within defined acceptable environmental parameters |
| Non-Compliant | Item has exceeded one or more defined environmental parameters |

## Actions

|  |  |
| --- | --- |
| **Name** | **Description** |
| Ingest telemetry | Readings are recorded |
| Transfer | Items changes between parties |

## State Transitions

