Continua for Logistics and Supply Chain

Do you have a process that could be improved if it were automated to make intelligent decisions on its own? Continua provides powerful, automated decision-making that learns with every decision made. The platform is general and can automate nearly any repetitive decision process that you can define. The more clearly you can define the process, and the greater the number of decisions to be made, the more Continua can help you. To use Continua, your system will send the information necessary for the decision, the options to choose from, and the objective(s) you would like Continua to achieve. Continua continually learns to improve the decisions it makes. The following example illustrates how Continua can help support your logistics and supply chain operations.

Automation of Delivery Efficiency

1. You have a recurring shipment that needs to be transported from the same source to a target destination each day.
2. You determine which objective to optimize for this shipment (arrive as close to a specific time as possible, never arrive late, minimize transport cost, etc.)
3. Your system opens a stream of real-time information about the shipment to our platform (current location, identity of truck driver, local traffic conditions, weather forecast, etc.)
4. At each decision point, you specify a set of actions that can be taken at any given time (select between air and ground, aggregate cargo with other cargo, tell driver to change route, etc.);
5. Over time, Continua learns which actions at each decision point lead to better performance on the objective(s) you provide.

Expected results: through its interaction with your system, Continua learns which actions work best in each situation. Performance improves automatically and continually over time for the objective(s) you define.

How to get started: We will work closely with you on defining items 2-4 above, which can be adjusted to better fit your particular situation. See the back of this brochure for information your developers can use to assess how they would deploy Continua.

Keep in mind: This is just one example of how Continua can help you automate your decision-making processes and enables them to improve continually.
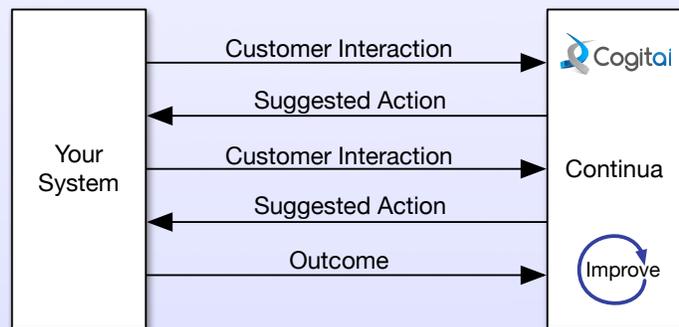
Integrating your process with Continua

The Cogitai platform Continua is hosted in the cloud. To access Continua from your systems, you will first need to create a corporate account on the platform. Once the account is established, your services will use that account information to establish secure connections to Continua.

Continua has a relatively simple but flexible RESTful interface. We will work with you to define the format of the data and the objectives that Continua should learn to maximize.

For each process in the automation example illustrated on the front of this brochure, the interaction between your system and Continua will follow this basic pattern:

1. **Input from Process**: Your system will send information at each step of your system's interaction, including information about the system's choices. In the diagram below, we consider the shipment to be the "customer."
2. **Suggested Action**: At each decision point in your system's interaction with its environment, your system will request an action recommendation from Continua. Your system will then execute that action or an action of your system's choosing, and record which action was taken.

3. **Outcome**: At any point during the interaction or at its conclusion, your system will send one or more values characterizing the quality of the outcome of the system's interaction according to the objective(s) you wish Continua to optimize. This allows Continua to improve its future performance according to those objectives.

Data is passed to Continua in JSON format. To simplify interaction with the Continua platform, Cogitai supplies client libraries in Java, Javascript, Python and other languages that communicate with Continua as described in the steps above. Beyond these tools, Cogitai also supplies a lower-level API for developers with strong backgrounds in Machine Learning and Reinforcement Learning, who wish to modify finer details of Continua's learning methods. Cogitai also makes available a set of interfaces to let you monitor your Cogitai account.