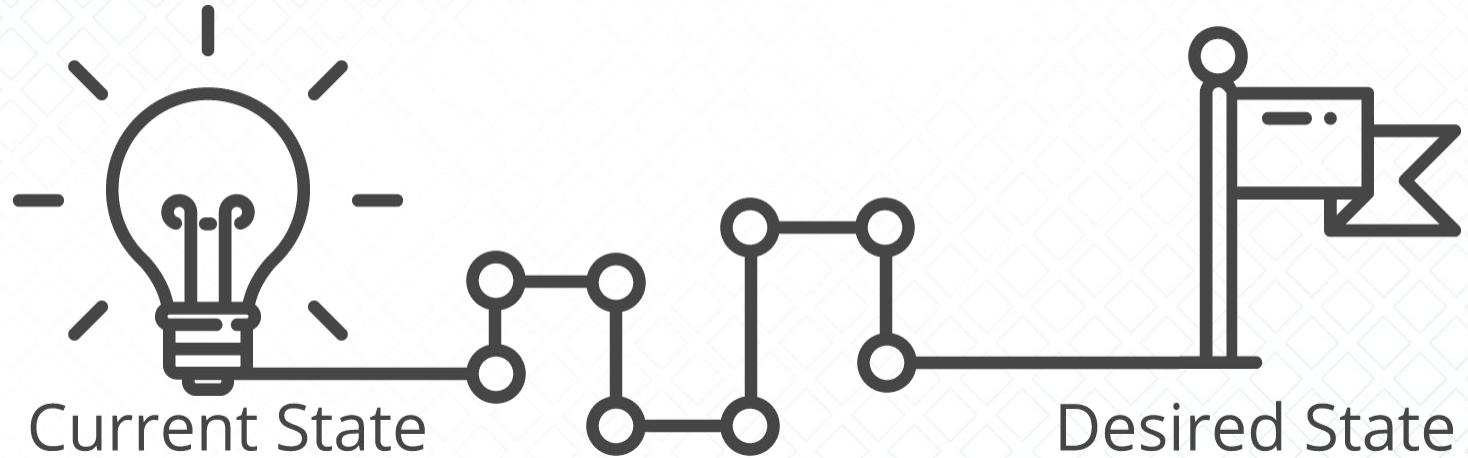Positive Disruption of Data Management Through Automation
The Spectrum / 1904labs Story

The Challenge

The Transformation

Current State

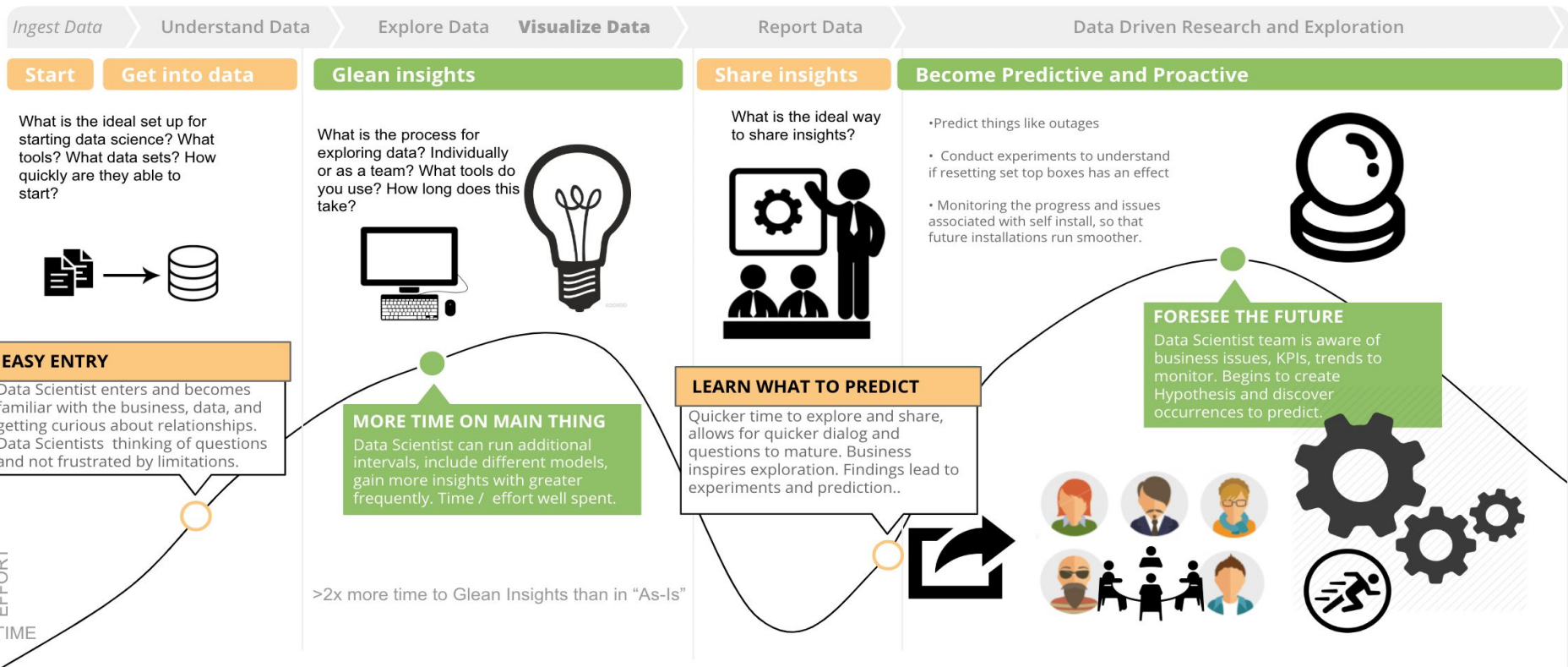Desired State

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Charter Spectrum

Charter Data Scientist **<u>To Be</u>** Scenario

The following journeymap intends to convey the desired path of a Charter Data Scientist working with data accrued over time and turn that data into insights for improving efficiency and effectiveness of Charter today, and becoming a more proactive company in the future.
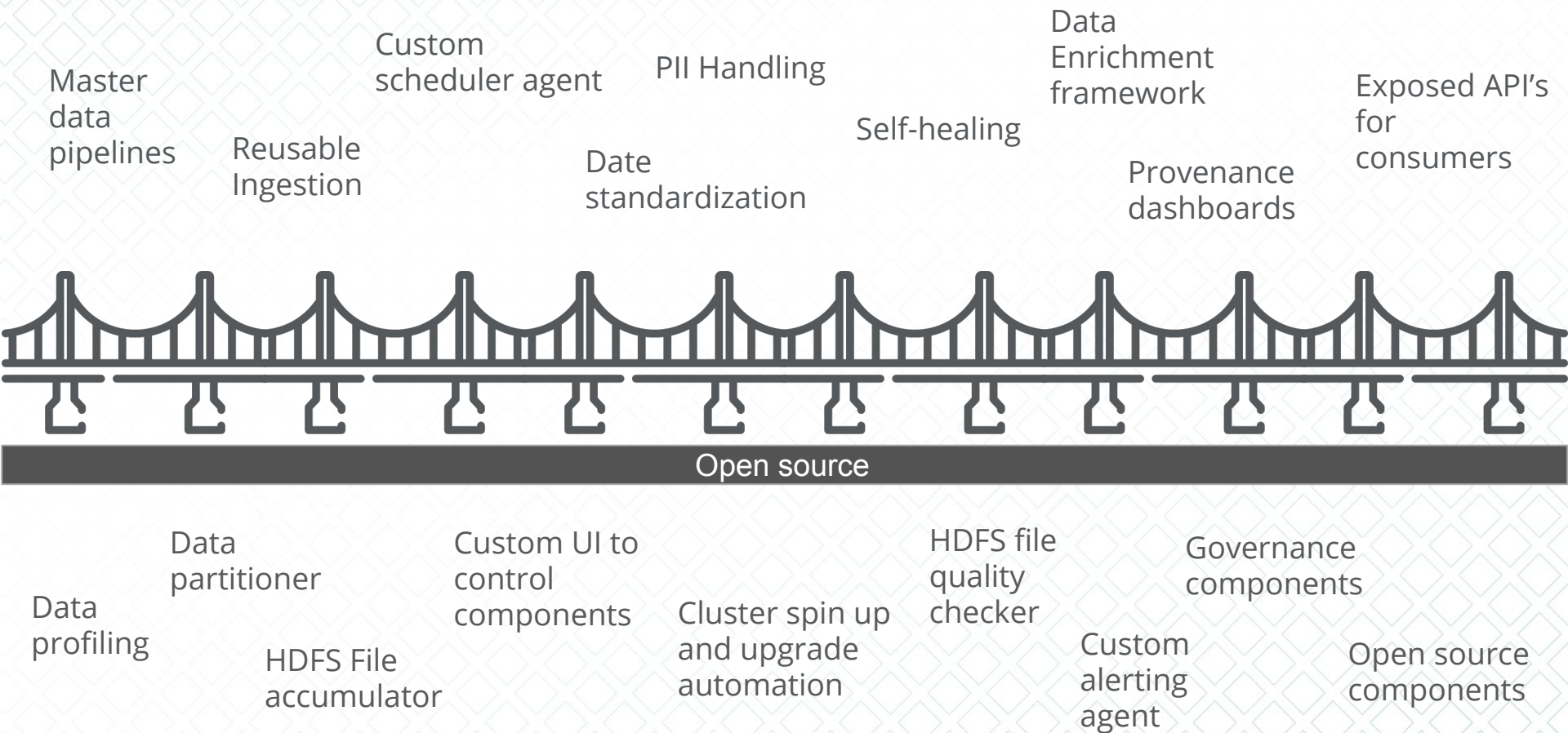
Goals & Motivations

- Tackle difficult challenges
- Get clean data in
- Improve efficiency working data
- Improve business ability to learn and respond to issues
- Transition from reactive to proactive
- Make informed decisions to improve business

Ingest Data	Understand Data	Explore Data	**Visualize Data**	Report Data	Data Driven Research and Exploration

Start | Get into data

Glean insights

Share insights

Become Predictive and Proactive

What is the ideal set up for starting data science? What tools? What data sets? How quickly are they able to start?

What is the process for exploring data? Individually or as a team? What tools do you use? How long does this take?

What is the ideal way to share insights?

- Predict things like outages
- Conduct experiments to understand if resetting set top boxes has an effect
- Monitoring the progress and issues associated with self install, so that future installations run smoother.

FORESEE THE FUTURE
Data Scientist team is aware of business issues, KPIs, trends to monitor. Begins to create Hypothesis and discover occurrences to predict.

EASY ENTRY
Data Scientist enters and becomes familiar with the business, data, and getting curious about relationships. Data Scientists thinking of questions and not frustrated by limitations.

MORE TIME ON MAIN THING
Data Scientist can run additional intervals, include different models, gain more insights with greater frequently. Time / effort well spent.

LEARN WHAT TO PREDICT
Quicker time to explore and share, allows for quicker dialog and questions to mature. Business inspires exploration. Findings lead to experiments and prediction..

EFFORT

TIME

>2x more time to Glean Insights than in "As-Is"

What We Learned

- Easy to understand - simple to operate

- Automate, automate, automate

- Separate technology from the user

- Open book

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Charter
Spectrum

What We Did

Master data pipelines

Reusable Ingestion

Custom scheduler agent

Date standardization

PII Handling

Self-healing

Data Enrichment framework

Provenance dashboards

Exposed API's for consumers

Open source

Data profiling

Data partitioner

HDFS File accumulator

Custom UI to control components

Cluster spin up and upgrade automation

HDFS file quality checker

Custom alerting agent

Governance components

Open source components

Modern Technology Maturity Survey

Can to take the survey

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Startup Minds, Innovative Solutions

We help IT leaders implement modern software and data solutions by providing teams of innovative people who emphasize the customer and deliver results.