



# LIXAR

Fueled by **IBDO**

# LIXAR fueled by BDO



Lixar is a **Premier AI and Data company** in Canada that helps clients discover how AI and Data can be leveraged to provide actionable, data-driven outcomes. The company is built on over **20 years of enterprise-scale experience** developing connected software solutions:

AI . Data . Cloud . APP Dev



## DATA, ANALYTICS & CLOUD

- | Data Science & AI
- | Cloud Platform as a Service
- | Edge Computing
- | Engineering / Architecture
- | Advisory / Strategy

## SOFTWARE DEVELOPMENT

- | Mobile / Web Front & Back End
- | User Experience (UX / UI)
- | Connected Products / Platforms
- | Legacy System Transformation
- | SDK /APP Development



# 2020 MICROSOFT IMPACT AWARDS



Lixar has Won

**DATA PLATFORM  
IMPACT AWARD**



*Microsoft AI  
Innovation Award*



*Breakthrough Partner  
of the Year Award*



**8x GOLD  
CERTIFIED**

Data Analytics | Data Platform | APP Development  
APP Integration | Cloud Platform | Datacenter | EMM | Security



LIXAR DRIVEN BY DATA



# HeroPath Accelerator



LIXAR

DRIVEN  
BY DATA

PREMIER AI & DATA COMPANY

# HeroPath | Generate Business Value



Lixar's HeroPath Pipeline generates significant business value for IoT and Data-Driven applications. Here are some of the industry use cases wherein streaming analytics is helping enterprises drive competitive advantage:

**Preventative maintenance** - Real-time streaming analytics can reduce operational and equipment costs by minimizing unplanned outages and avoidable site and maintenance visits.

**Smart energy** - Real-time monitoring of smart meters permits smart pricing models for electricity, as well as integration with renewable energy generators to optimize power generation and distribution.

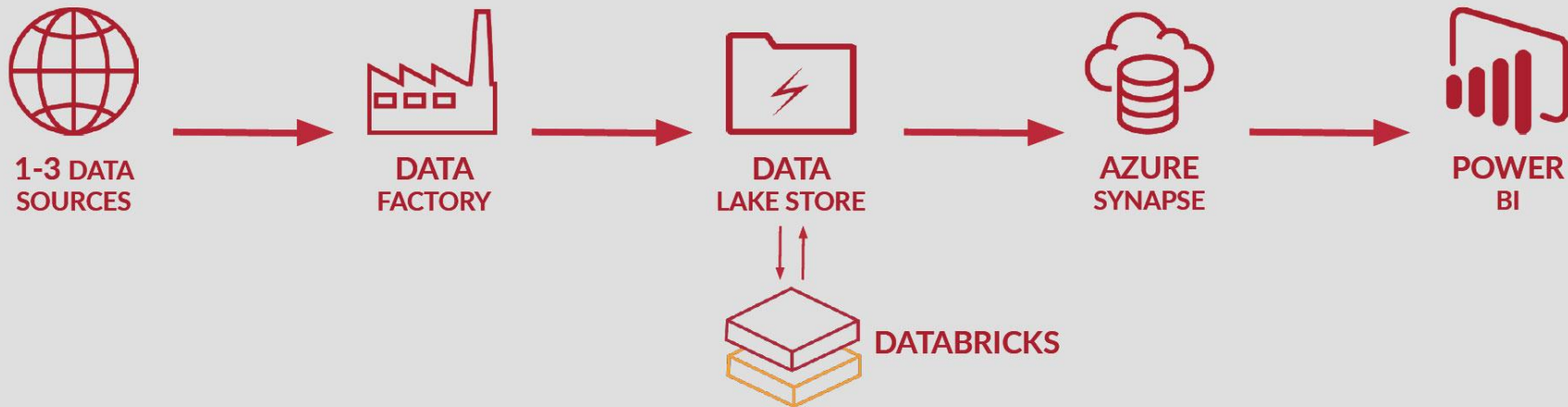
**Industrial automation** - Streaming and predictive analytics enable manufacturers to optimize production processes and product quality, including automated alerts and production shutdowns when quality levels are breached.

**Healthcare** - Real-time data facilitates integrating a variety of smart sensors to monitor patient condition, medication levels, and even recovery speed to optimize care recommendations.

HeroPath will **help you answer** the questions that are relevant today, but is built to be expanded, flexible and scalable so that you can adapt, adopt and grow for tomorrow



## HeroPath Architecture



# WHAT IS HeroPath?



**HeroPath** is a Data and AI pipeline deployed in **20+ production customers** leveraging best-in-class Data and AI cloud services on the Microsoft Azure platform. Lixar's aim is to set up, create and manage a lightweight and elastic platform that can:

## INGEST

- | Ingest data
- | Persist hybrid data in raw format

## TRANSFORM

- | Process and curate the ingested data
- | Surface the data

## ENGAGE

- | Create data visualizations
- | Engage with data-driven insight

# THE DATA JOURNEY

## Crawl

*Firms with little to no experience in advanced analytics, BI, or data-driven decision-making*

## Walk

*Experienced in BI. Decisions are data-driven. Have dabbled in advanced analytics*

## Run

*Business models transformed by advanced analytics. All decisions are data-driven*

### Associated Activities

#### Data Visualization

Leveraging data visualization tools to explore your data

#### Data Advisory

Data workshops, consultation, and advice

#### Data Engineering / Infrastructure

Data Lake - Hadoop ecosystem, data pipeline, APIs  
Cloud

#### Strategy & Roadmap Development

Data strategy written for the enterprise  
AI use cases

#### Data Science

Proofs of Concept - Constrained projects to show what is possible, help build support for further projects, gain experience  
Production Algorithms/AI to support decision-making

#### Advanced AI

Automation through Artificial Intelligence



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#### HeroPath | Phase 1

Infrastructure/Phase 1 Deliverable

#### HeroPath | Phase 2

Advanced Analytics and Increased DevOps Capabilities

#### Data Science

Proofs of Concept - Constrained projects to show what is possible, help build support for further projects, gain experience  
Production Algorithms/AI to support decision-making

#### Advanced AI

Automation through Artificial Intelligence

# HeroPath | PROPOSED PHASE1 SCHEDULE



## Proposed Architecture

The proposed **HeroPath** architecture for this project is based on the Microsoft Azure platform. Our aim is to set up and manage a lightweight and elastic platform that can ingest data, persist it in raw format, process and curate the ingested data, surface the data, and create data visualizations driven by the surfaced data.

Milestone	Delivery Date
Project Kickoff	Week 1
Platform Setup	Weeks 1-2
Data Ingestion & Processing	Weeks 3-4
Data Modelling & Reporting	Weeks 5-6
Deploy & Knowledge Transfer	Weeks 7-8

Lixar will provision all of the required services to demonstrate the functionality of a working data pipeline.

# HeroPath DEPLOYMENTS



## Industries with deployed HeroPath data pipeline:

- | Manufacturing
- | Financial Services
- | Public Sector
- | Sports and Entertainment
- | Telco



Transport  
Canada

Transports  
Canada



Canada School  
of Public Service

École de la fonction  
publique du Canada

**SaskTel** 

 **MAGNA**

 **ARC**



 **BELRON**

  
**Scotiabank**





## FREIGHT OPTIMIZATION

- | Using **HeroPath**, Lixar helped Transport Canada meet aviation standards by reducing the review of hundreds of thousands of manifest messages to only those that required secondary follow-up inspections.
- | Lixar developed a **predictive tool** that uses ML/AI and natural language processing. This moved manual process to a data and AI-Driven solution.
- | Messages can now be accessed in fractions of a second, **saving time and cost**.

## IDENTIFY PROBLEMS BEFORE THEY OCCUR



- | **Challenge:** Data Ingestion through IoT Sensors in Real-Time
- | **How:** Incremental transformation starting with cloud migration to Azure. Migration to a modern data platform that allows for data ingestion, transformation and faster processing.
- | **Result:** Real-time analytics for fast decision-making from data taken directly from sensors on key machinery, tools and equipment. Know what tools to use and when.

## ASSET OPTIMIZATION

Developed an asset optimization model to **prescribe the best course of action** for water resource management at hydroelectric facilities.

- | Water inflow, asset characteristics and energy price forecasts inform costs and constraints
- | Generate optimal schedules for water management and energy production for upcoming 24-hour period
- | Substantial increase in annual revenue







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